Archive

The Subscription Magazine for Acorn Users

MARCH '95

March 1995 Vol. 8 N° 6 £2.50

The Composer and his Computer

Database Comparison

Video Editing on Acorn Computers

Acorn Risc PC – Best of Both Worlds?

Econet – Experience and Salvation

Use of Sound in Special Needs

Reviews: ABC of Art, Arcturus, Betsi, Blinds, ClassCardz for Wordz, E-Type 2, First Page, Font Designer's Toolkit, ImageFS, Landbuild, Letraset & URW Fonts, Non-Designer's Design Book, Softcrete, WimpGEN v2.06

ncs

NORWICH COMPUTER SERVICES

An up-hill battle for Acorn

Anyone who thinks that life is going to be easy in this next couple of years for Acorn (and any companies, like NCS, who depend entirely on Acorn for their livelihood) is living in cloud cuckoo land. If the PC card had been available in 1994, things would have been very different – but you can't live on if's.

We have the technology...

As I'm sure you are aware, Acorn have the leading edge technology that will take us into the 21st century. No other manufacturer can produce RISC chips of such high processing power, low physical power and low cost. The potential is tremendous... set-top boxes, multi-processor computers, etc.

...and we have the prejudice

It's the education market that has kept Acorn going for years, but being linked with education has been Acorn's undoing when trying to sell into the 'real world'. Read the Comment Column (page 15) to see some of the prejudice we face... but read there also about how I think we can help to overcome that prejudice. If Archive readers take my suggestions seriously, I believe that we can make the difference.

Go for it!

Paul Beverley

Government Health Warning – Reading this could seriously affect your spiritual health.

It's been very interesting over the last seven years to see the different sorts of reactions I get to my 'God-slot'. The issue that brought the most response, in terms of the number of letters, was just over a year ago, when I mentioned that I had been depressed. That seemed to have struck a chord for many people.

The deepest, darkest day for me was about 18 months ago. The business was floundering, money seemed to be leaking away, creditors were chasing me for payment and threatening not to supply any more goods. That would have meant nothing to sell and, with NCS not being a limited company, I would have gone bankrupt. This had been going for some months and the strain was beginning to tell.

Being a Christian, I hated not being able to pay bills on time as I felt I was bringing dishonour to God. I could just hear people saying, "You call yourself a Christian...".

Wednesday was always my worst day – that's when the accountant comes in and we see how we are faring. (Nothing personal, Roger!) One Wednesday morning, Mike walked in. (Mike is Honorary Chaplain to NCS He's a chaplain at the nearby hospital and pops in on his day off and chats to the staff.) "How are things going?" he asked. Well, that was all it needed. "Mike, could you take me home in your car, please?" I sat at home on the settee for the rest of the day and quaked. I wanted to escape but there was no way out.

Some of you will now be expecting me to say, "I prayed to God and all was well." I just wish it were that simple! In fact, it took several months, a lot of prayer and a lot of help from good friends before I was back on an even keel. The Christian faith *doesn't* shelter you from difficulty – don't let anyone tell you otherwise.

I was praying one morning and was saying to God, "Please give me some sign that we are going to get through this." I then turned to the passage suggested in my bible-reading notes for that day. It was Exodus 14 where the Israelites have escaped from Egypt but have come up against the Red Sea and the Egyptian chariots are bearing down on them – I could relate very well to their feelings! One verse leapt out at me and, to this day, I have it pinned above my desk. God said to them (verse 13) "Do not be afraid. Stand firm and you will see the deliverance the Lord will bring you today." but I had to wait until April '94 (the launch of the Risc PC) before the Red Sea opened for NCS.

P.B.

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Products Available

• **Advance upgrade** – Acorn Advance has been upgraded: It is no longer copy-protected so that installation is quicker, the spreadsheet size has been increased from 5,000 to 10,000 and it is now fully Risc PC-compatible. The upgrade is done through Acorn Direct and costs £29.95 (single user), £39.95 (primary site licence), £49.95 (secondary) – all prices inc VAT. Send cheque or credit card information to Acorn Direct along with proof of purchase. For the single user, this means sending your program disc (not the data discs) and for site licence owners, sending your licence agreement. The upgrade offer lasts only until 30th June 1995.

We have two copies of the current version of Advance in stock (drat!), so if anyone wants to buy one, they are available at £50 each. If you upgraded them through Acorn Direct, you would only pay a total of £79.95 instead of the normal Archive price of £105.

• **Aleph One PC podules** – The PC cards for pre-Risc PC have benefited from the price cuts in the PC market. A bare 50MHz card costs £399 +VAT from Aleph One and a 25MHz version costs £339 +VAT. The cards then need standard SIMM memory to be added.

• **All New Talking Animated Alphabet** – Sherston's BBC Micro product, The Animated Alphabet, has been updated for the Archimedes and Risc PC. Using the same speech technology as the Talking Stories, the pack features three activities dealing with visual and aural letter discrimination and letter recognition. Children can see a letter changing into an object which starts with the same sound, whilst hearing the letter's sound. All New Talking Animated Alphabet costs £29.95 +VAT from Sherston or £33 through Archive.

• **Arcturus** – a new game from Oregan Software involving piloting a spinning craft across numerous landscapes, avoiding nasties and collecting goodies. The cost is £24.95 from Oregan or £24 through Archive. See the review on page 49.

• **Canon BJC4000** – Computer Concepts have released the Canon BJC4000 colour inkjet printer, bundled with a special version of their latest Version 4 TurboDriver software. Unlike the BJC600 the printer has two cartridges, a high speed mono, approximately twice as fast as the BJ200, and offers resolutions of up to 720dpi using interpolation. A colour cartridge allows 360dpi colour output. The price is £445.32 inclusive from CC.

• **CD-Net2** – Cumana have upgraded their CD-ROM server for Acorn networks. New features include predefined settings for most CD-ROM titles, which can be reconfigured if desired. Changes to the discs loaded in the server will be reflected by the clients so the users know which are available. PC discs for DOS and Windows are also now supported, which can be run via the PC Emulator or PC second processor card. The performance has improved since the original version and Acorn AUN/Access, SJ Research Nexus, Oak ClassNet and TCP/IP are all supported. CD-Net 2 costs £175 +VAT from Cumana, registered users of CD-Net 1.50 or later qualify for the free upgrade path.

• **CD-ROM drives** – Two new CD-ROM drives are now available from Eesox. The Silver 2 is a 2.4 speed drive which, say Eesox, is in some tests almost as fast as some quad speed drives (360Kb/s) because of the fast (220ms) access time and the 256Kb internal cache. The main thing about it is the very keen price – £195 inclusive through Archive for the Risc PC internal version and £280 for the external version. If you want a quad speed drive, their Gold drive (600Kb/s + 225ms access time) is a caddy-loading drive at £360 for an internal (Risc PC) drive and £440 for an external drive through Archive.

Archive Monthly Program Disc Contents

- Files from Gerald Fitton's Column – p34.
- David Holden's hard disc test program – p12.
- Pangrams from Christopher Jarman – p77.
- Files from Paul Hooper's Multimedia Column – p57.
- Files from Keith Hodge's Risc PC Column – p67.

These are SCSI devices, so you need a computer with a SCSI interface. (We suggest the Morley uncached card at £160, or the cached version at £220 or the Cumana SCSI II at £235 plus £27 for a SCSI II cable if using it with an external drive.)

• **Chair prices rising** – If you are thinking of buying a Wing chair, now is the time because, apparently, the prices are increasing in March. The Stokke Wing chair (see Archive 8.3 p4) is currently £320 inc VAT and carriage through Archive.

• **Clicker Plus** – The updated version of Crick Computing's Clicker package can now handle colour graphics and symbols as well as sound and text. An on-screen keyboard displays a number of cells. when a cell is clicked, the word or picture is inserted into the word processor in use. Speech can also be used so children can hear their choice. An upgrade from Clicker is £20 +VAT, the full Clicker Plus package is £55 +VAT from Crick Computing.

• **Concept Keyboard Support Pack** – A collection of datafiles and overlays for use with the Concept Keyboard, based on ideas from teachers of Key Stages 1 and 2. Topics include Myself, Weather, Direction Giving, Sequencing, Alphabet, Keyboard, Colours, Shapes, Sizes, Seed Growth, Number Bonds and Coins. A number of blank A3 and A4 overlays are also supplied. The price is £20 +VAT from Hampshire Micro Technology Centre.

• **Conjuguez** – The Conjuguez package from Creative Curriculum Software has been revised and there are now three versions. Conjuguez! comes with 800 verbs in seven levels from beginner to GCSE level and costs £16.98 +VAT. Conjuguez Plus covers from beginner to A-level with 3500 verbs and costs £25.49 +VAT. Owners can upgrade from Conjuguez to Conjuguez Plus at a later date. Conjuguez Education has all the features of Conjuguez Plus, with an additional facility to add more verbs to those supplied, allowing the student to progress beyond A-level. The price is £39 +VAT for a single user version, or £89 +VAT for a site/network licence from Creative Curriculum Software.

• **Easy C++** – Beebug have released Easy C++ the first native RISC OS C++ compiler. Using a similar interface to Easy C, the complexities of compiling and linking are reduced, although there is a command line interface if you need the additional control. The software is supplied with the standard C and C++ (iostream) libraries. Easy C++ is £99 +VAT (£110 through Archive), the upgrade from Easy C is £49 +VAT. Easy C is still available for £59 +VAT (£67 through Archive).

• **HeartBeat** – This is a package of heart monitoring hardware and software produced by VTI and Health Care Technology as part of the CardioSport range. A receiver plugs into the serial port and a transmitter is strapped onto the chest. The software allows heart information to be recorded and can analyse the calorific burn rate, maximum and minimum heart rate and so on. Results can be displayed in graph or table forms. The cost is £99 +VAT from VTI.

• **Heavy mouse balls** – Weighing in at four times heavier than the standard mouse ball, these fit neatly into the Acorn mouse, giving it a more positive response. They are available from Oak Consultants for £3 including postage, packing and VAT. *(I have put this entry in again because we now have the address of Oak Consultants. Ed.)*

• **Holy Bible** – ExpLAN are just finalising the licence agreements on their Holy Bible software, a multimedia package using electronic texts from around the world. High quality graphics, multiple versions, fast searches, read-only commentaries, user-created notes, cross-referencing. The base pack comprises Authorised Version and Strong's Concordance at £70 +VAT for the single user version, and £199 +VAT for a site licence. Additional full modules are: NRSV with study notes (CUP), REB with educational resources (CUP), Russian with Cryllic fonts (Licht in Ostern). These are available for an additional £45 +VAT each and the NIV Anglicised (Hodder) is an additional £25 +VAT. Carriage is also extra. (Archive prices are £80, £225, £52 and £28 respectively through Archive.)

• **Junior Insight** – This is a new data-logging application from Longman Logotron to assist in experiments for Key Stages 2 and 3. It is capable of display and capture of analogue or digital data at a user-specified sample rate. Results can be displayed as tables or graphs, and the graphs may be overlaid so comparisons can be made. Analysis options can calculate the gradient of a slope or the area under a curve. It is compatible with interfaces such as

Unilab, Sense and Control, LogIT, SenseIT and the Philip Harris hardware. A single user version costs £29 +VAT.

• **Lots More Fun & Games** – HS Software have produced a set of three games aimed at 5 to 9 year olds. Dataday teaches the days of the week and months of the year in sequence. Spot the Blot involves visual perception and discrimination skills and Gwyn's World involves shape recognition and fractions. Lots More Fun & Games costs £22.95 from HS, or £22 through Archive.

• **MathMania** – In this educational game from Topologika Software, children have to help the teacher escape from a maze, answering questions on Number, Time, Measurement, Angles, Shape & Space. Questions can be at four difficulty levels, the first two corresponding to Key Stage 2, and levels 3 and 4 to Key Stages 3 and 4. There are also five puzzles which occur at the end of a maze before the player can move on to the next, more difficult, maze. The price is £25 +VAT (£28 through Archive), site licences are an additional £25 for primary and £40 for secondary (£28 and £45 through Archive).

• **Meteosat RISC** consists of a CD-ROM and Acorn software to run it. The CD is produced by the European Space Agency and contains 23000 images from the geostationary Meteosat satellite. There is an infra red image of the whole Earth taken each day from 1986 to 1991. In addition, there is one image per month in visible light and assorted extra images of water vapour and snow storms. The software supplied includes !Meteosat to access the pictures in date order, !Palmake to edit the displayed colours, and !SpMovie to create an animation showing weather development. The package is available from Musbury Consultants for £30 inclusive. Note that you must specify if you are using a Risc PC because an enhanced set of applications are supplied.

• **Non-Designer's Design Book** – This book by Robin Williams has absolutely nothing to do with Acorn computers! However, it is really an excellent guide showing how to make the best use of those DTP facilities that most of us possess yet few of us (including me) have been trained to handle. It explains the basic principles of page layout, using fonts, etc, in such a way that (a) it is easy to understand and (b) it is memorable. This means that you actually put into practice the things that you have read. (See Mark Howe's review, on page 23) The price is £13 inc p&p.

• **Oak Recorder Update** – Both versions of the Oak Recorder sound sampler, supplied by Solent Computer Products, are now being shipped with the latest version of the SoundLab software, which features a button bar for ease of use, amplifying, fading, echo, filtering and can convert between a number of different formats. Oak Recorder 2 for earlier systems costs £39.95 + £3 p&p +VAT, Oak Recorder 3 for machines with a bidirectional parallel port (i.e. A5000 or later) costs £44.95 + £3 +VAT.

• **OMR Supplement** – A new extension to the Iota DataPower database allows the database to read Optical Mark Reader forms. It will read DRS SOS files, which describe where to look on the OMR form for data, and from it creates a DataPower database ready for use. The completed forms can then be read directly from the completed forms into the Database ready for analysis, assuming you have the necessary reader. Possible uses include assessment, end of year reports, attendance reports and multiple choice examinations. The supplement costs £99 +VAT from Iota Software, and you will need a copy of DataPower if you do not already have it. Optical Mark Readers start at £2000 from DRS.

• **Picture Point** – This package, aimed at Key Stage 1 pupils, to introduce them to data handling. Children can perform surveys with a simple point-and-click interface. The survey can then be displayed graphically as a bar chart, pie chart or a pictogram. When clicked on, the graphs will actually speak to explain the relationship between the numbers on the graph. The data can be exported into Junior pinpoint or spreadsheets. The single user version costs £29 +VAT from Longman Logotron or £32 through Archive.

• **Printer Port Sampler** – VTI have released a new version of their printer port sound sampler, capable of sampling simultaneously from line as well as mic inputs for mixing sound sources. A microphone is supplied with the package, along with the Sonor sample editing software. The price is £44.95 +VAT.

• **PublishArt** – Smart DTP have produced a clipart resource pack featuring designs for use in DTP packages rather than drawings or pictures. Included are QuickPapers, highlights, page layout, patters, stencils symbols and backdrops. The price is £29.95 inclusive.

• **Rainbow Multimedia** – This is a new picture-based multimedia package from Longman Logotron. It is designed to assist development of a child's writing, language and object recognition skills and enables pictures, animation, video, text, speech, music and sounds to be combined to produce interactive books. Rainbow Multimedia costs £29 +VAT +p&p from Longman Logotron or £33 through Archive.

• **Report Writer** – After the review last month (8.5 p70), Creative Curriculum Software's report-writing software is proving particularly popular amongst teachers and lecturers, so we have decided to stock it at £56 inclusive.

• **ReSound** – NW Semerc have produced a printer port sound sampler which can sample from the supplied microphone or from other sources via the line input. It is supplied with software to allow editing of the captured samples. The price is £42 +VAT from NW Semerc.

• **RISC OS 3.1 Style Guide** – This product has been available and then not available... but now it is available again – £10 inc p&p through Archive.

• **Speech II** – Superior Software have upgraded their speech synthesizer. It now has an extra 3,500 words, improved speech quality, improved word editing facility for special words, interactive help support, is hard disc installable, has accented characters, foreign language support – a German extension is available – and the new Speech module can be used directly with Talking PenDown and Full Phases to give much improved speech. The upgrade from Speech costs £10 inclusive, £15 if you want German Speech. Single user copies are £29.95 inc VAT or 34.95 for German Speech and site licences are available from Superior Software.

• **Spelling Book** – This is designed to assist pupils (aged 4+) with their writing when using a word processor and to help them learn spellings. The software allows words to be input into any multitasking word processor or DTP package, dictionary maintenance is simple, and a wide selection are supplied. These include basic words, and sets for the common National Curriculum topic areas. A quiz section is also provided which allows the dictionaries to be used in missing letter type games. The price is £39 +VAT for a single user version, or £89 +VAT for a site licence, from Creative Curriculum Software.

• **TableCalc** – This spreadsheet, for RISC OS 3.1 or later, supports interactive help, point and click expression definitions and full OLE support for Impression Publisher. It can export Draw and CSV files, supports 24-bit colour and multiple text styles. The price is £30 + £1.50 from iSV Products.

• **Talking Clocks** – Any user with RISC OS 2 or later can use this package which encourages children to examine clocks, learning to read and set them. Clocks can have hand or digital faces and speak the time when clicked on. There are four parts 'Say the time' allows the player to build up a sentence to speak the time shown on the clock, 'Set the Clock' teaches children to set the clock to a time given in words, 'Match the Clocks' requires a clock to be set to the same time as a second clock and for 'How much Time?', the child needs to calculate the time difference between two clocks. The package records children's work which can then be printed out and most tools are configurable. It is available from Topologika Software for £35 +VAT (or £39 through Archive) for a single user licence. A primary site licence costs £60 +VAT or a secondary licence costs £75 +VAT from Topologika.

• **Talking Stories** – Sherston have released a third set of their Talking Stories, based on popular stories from the Oxford University Press 'Oxford Reading Tree' scheme, as used in many schools. The stories, read by actor Richard Briers, are Floppy's Bath, The Baby-sitter, The Water Fight, Kipper's Balloon, Spots! and Kipper's Birthday. The price is £39.95 +VAT (£45 through Archive) for the single user version – site licences are also available.

• **Treasure Chest** – Thousands of pictures, symbols and sound effects in !Draw, !Paint and Photo sequences for use in the National Curriculum. Sections include food, history, languages, natural

world, objects, people, places and symbols. The price is £69 +VAT from Northwest SEMERC.

• **Trees** – This CD-ROM resource contains pictures and descriptions of the native trees of the British Isle. Produced with the assistance of the British Tree Council, the disc also includes photographs, diagrams of twigs, details of the ecology of trees, and the uses to which trees are put. A single user version costs £40 +VAT from Hampshire Micro-Technology Centre.

• **Trip** – This admin package simplifies the organisation of school trips, including the tracking of pupil payments. The price is £14.95 +VAT from Creative Curriculum Software.

• **Vision 24** – The Vision and HiVision colour digitisers from HCCS have been replaced by the Vision 24 range of 24-bit digitisers. 254-line version is £99 +VAT, the 508-line version is £139 +VAT and a later upgrade from 254 to 508-lines is £49 +VAT.

• **Werewolf Utility Discs** – Werewolf Software have produced two utility discs for the Acorn range. Disc 1 contains ArmCache, CacheOff, CacheOn, NewIcons, NewTools, ResetMem, ResetMode, ResetPal, ResetScr+, ResetSnd+, ResetSysF, Runner+, UnRunner+, WWSHelp and costs £6. Disc 2 contains Counter, MakeHelp, PasteUp, Rubbish, Shutter, SpriteUtils, STPlayer, VATCalc, WWSHelp and costs £7. If you purchase both discs the price is £12, or a compilation disc, featuring the best applications from both discs costs £10, Prices include VAT, but postage is 50p extra.

• **Woodland Birds CD** – This is a large reference database from Creative Curriculum Software containing photographs, bird songs and calls, along with text, maps and other data. Aimed at Key Stages 2, 3 and 4, it costs £49 +VAT (single user) or £99 (site licence). It is a dual format CD and can be used on RISC OS or a Windows-based machine.

Product not going to be available!

• **Ion Camera** – Atomwide have asked us to point out that while they have been using, and recommending a still video camera, contrary to popular belief, they do not, and will not be, selling it as a product since it is only compatible with NTSC television formats.

Review software received...

We have received review copies of the following: •BasicAOF (utility), •Landmarks Microworlds: The War Years (education).

If you would like to review any of these products, please contact the Archive office. Potential reviewers will need to show that they would use the product in a professional capacity or that they have some knowledge of the particular field.

Font Creation Competition

At Christopher Jarman's suggestion, we are going to have a font creation competition. Here are the rules:

1. The competition is open to anyone, provided they do not design fonts professionally. It is strictly a competition for amateurs and new enthusiasts for font design.
2. Entries should consist of one original outline font for the Acorn platform in RISC OS 3 format.
3. The font must be drawn by the competitor and not scanned or traced or copied from any other font from any other platform or publication. Entries will be checked for this.
4. The entry font shall consist of all the numerals, capitals, minuscules, and at least the following 22 punctuation marks: ! " £ $ % & * ( ) _ { } [ ] ; : , . < > ? /
5. The font shall be presented in a font directory ready to load into an Acorn machine and to work in all usual WP programs.
6. The closing date is **Friday 7th April 1995**.
7. There will be at least two prizes: One set of Gothic and Medieval Fonts presented by Datafile and the Font Designer's Toolkit presented by iSV Products. The winner may select which prize, and the runner up will have the other. *(I'm working on getting some more prizes! Ed.)*
8. The judges' decision is final.

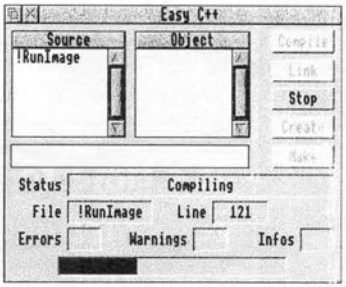
We would hope to put the best fonts on the Archive program disc in a few months' time.

EASY C++ - THE EASY WAY TO LEARN OR DEVELOP YOUR SKILLS IN C++

Easy C++ is the first implementation of the in-vogue object oriented programming language C++ written specifically for Acorn RISC OS systems.

This implementation conforms to the latest Stroustrup text and supports both Templates and Exceptions.

- Uses the much praised Easy C WIMP front-end which allows programs to be compiled, linked and run at the click of a button.
- Supplied with *ANSI C* and *IOstream* libraries. Library facility allows further libraries to be created.
- *Make* facility with automatic generation of Make files.
- Integrated ARM assembler.
- Supports the *Throwback* facility allowing errors to be passed back to editors such as DeskEdit, Zap and StrongEd.
- Superb source-level debugger for C programs (C++ version available in next release). Purchase Easy C++ now and receive an automatic upgrade to the next release.
- FreeWare C library *DeskLib* provides functions for writing WIMP programs.



Easy C++ is not a C++ to C translator but compiles C++ source directly to ARM code making it quick and easy to use. Unlike other systems it runs in only 2MB RAM.

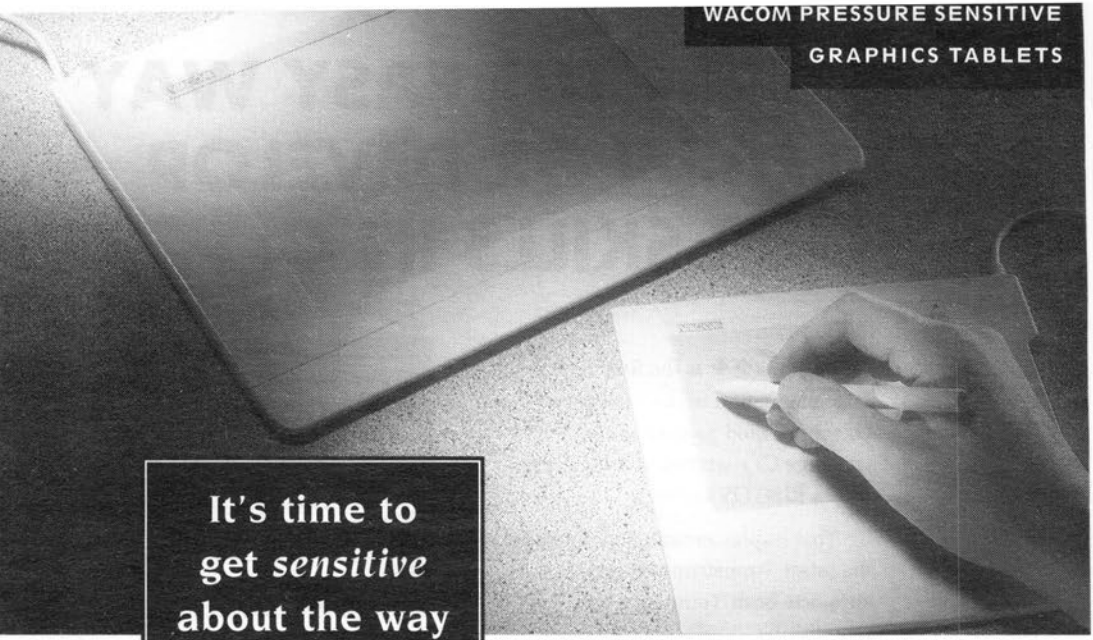
The original highly acclaimed Easy C package is still available which is ideal for programmers wishing to learn or develop their skills in C. An upgrade from Easy C to Easy C++ is also available.

For more information phone 0727 840303 or to order direct call 0727 840305.

The Easy C Range		
0080	Easy C++	£99
0100	Easy C	£59
0050	Upgrade Easy C to C++	£49

BEEBUG

Beebug Ltd. 117 Hatfield Road, St. Albans, Herts. AL1 4JS
Tel. 01727 840303 Fax. 01727 860263
Prices exclude £2.70 carriage and VAT.
To upgrade, please return original Easy C Program disc marking your envelope 'C++ Upgrade'.
Please note that Easy C++ does not teach C++ programming.



It's time to get *sensitive* about the way you *create* your graphics

Many computer users feel that a graphics tablet is more natural to use than a mouse and without doubt it gives a much faster, smoother and higher resolution response. The mouse remains functional and can be used at the same time as the pen — however the pen has such a natural and precise feel, you will probably prefer it for many operations such as moving windows, drag and drop, region selection etc.

The new (approximately A6) ArtPad tablet offers a superb specification, even by Wacom standards; resolution exceeding 2000 dpi, 200 samples per second and 256 levels of pressure. All Wacom tablets include a cordless pen for added ease of use and flexibility.

The tablets are pressure sensitive, so in combination with suitable applications they can produce realistic effects such as variable width (the Eesox ArtWorks pressure sensitive tool) or variable density airbrush painting (PhotoDesk). The Computer Concept's drivers will be compatible with these and other software that can take advantage of the pressure information, such as Studio 24 and DA Picture.

Computer Concepts can supply the tablets with either Photodesk or the Eesox Pressure Tool at special prices. **PHOTODESK** is a photo retouching package from Spacetech, which offers a wide range of advanced image manipulation features; for example an airbrush, paintbrush and magic wand, full 24 bit colour support, the use of virtual memory, OLE with Impression, complete undo, effects such as colouring, toning and masking, motion blurring, cloning and smudge and smear.

The package contains the Wacom tablet (A6 ArtPad, A5 or A4) and manual, a cordless pen, Computer Concepts driver software suitable for all models of Acorn RISC computer (A3000 must have serial port upgrade) and PC drivers. Requires 1Mbyte or more.

Price: A6 ArtPad & drivers: £169 + VAT (£198.57 incl.)
A5 tablet & drivers: £399 + VAT (£468.82 incl.)
A4 tablet & drivers: £549 + VAT (£645.07 incl.)

ArtWorks Pressure Tool with tablet: add £10 + VAT (£11.75 incl.)
PhotoDesk with tablet: add £125 + VAT (£146.87 incl.)

ArtWorks Pressure Tool: £39 + VAT (£45.82 incl.) PhotoDesk: £169 + VAT (£198.57 incl.)

Computer Concepts Ltd

GADDESDEN PLACE • HEMEL HEMPSTEAD • HERTS • HP2 6EX • TEL. 01442 351000 • FAX 01442 231632 • Email: Info@CConcepts.co.uk

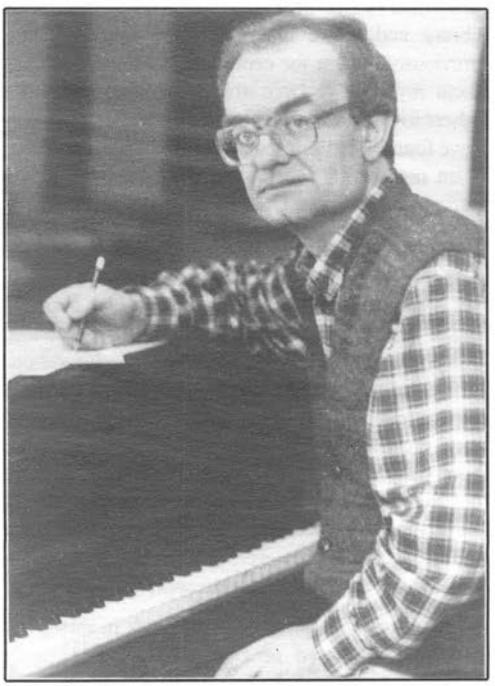
The Composer and his Computer

John Rutter

John Rutter spoke at the meeting we held in October about the effect that the computer had had on his work as a composer. We all found it so fascinating that I thought it would be great to share with Archive readers some of the things he told us. So this article, written by Vera Cooke, is based on a taped interview I had with John at his home in Cambridge at the end of last year. I hope that non-musicians and musicians alike will enjoy reading it... Paul Beverley.

Exit the quill pen...

For musicians, the progression from quill pen to the computer has been slow in coming... but when it did come, it happened incredibly quickly! When you think of the mechanisation of printing words, it happened in stages: printing in the 15th century, the typewriter in the 19th century, the word processor in the 20th century. But in the last decade, music printing has moved straight from the quill pen to the computer with no stops in between.



I say "quill" pen, because many modern-day composers, arrangers and copyists don't really like the fountain pen, or ball point pen – dip-pens definitely give the most satisfying results. The nibs used by myself and others for many years were made by George W. Hughes in Birmingham, whose 'Time is Money' nibs were legendary. They had a good reservoir, meaning you could work faster. So until photocopying came into being in the 1960s, if you had a whole orchestra with 8 desks of first violins, you had to write out a copy for each one by hand – just imagine the amount of labour involved. As a penniless young student, I did some copying for the BBC and acquired my own private supply of these lovely nibs from the BBC's head copyist. When Hughes retired in 1962, the BBC and others bought up all the 'Time is Money' nibs they could find. By the time we reached the 1980s, I estimated that I had enough nibs left for the next five or six years, so unless I stopped composing or some new advance came along, I was going to be in trouble sooner or later!

Looking for alternatives

In the next few years, I tried a range of computer programs. None of them were for me. Either they were too technical and 'user-un-friendly' or the music produced by the simple-to-use ones looked ugly. Most of us who put music on paper care about the physical appearance of the final result. There's no satisfaction in producing music if it looks lumpy, ill-spaced and its visual proportions are not elegant. I felt I could only buy something that was a match for the best engraved manuscript.

Enter 'Sibelius'

When I received a mailshot about Sibelius, it seemed that this software had solved a lot of the problems found in earlier packages. I visited the Finn brothers to take a look at the package and was impressed with its simplicity and ease of use. (I must mention that computers were not completely foreign to me – my son and wife have been using Acorn computers for some years.) I took, at random, a page from *Carols for Choirs* – a collection that I had edited some years before – and I input and printed it out in an

afternoon. It was more or less indistinguishable from the original. Sibelius obviously had tremendous potential and I was enormously enthusiastic.

As I began to use Sibelius more and more, I started pushing the Finn brothers to take the program further. With suggestions from myself and others, they began to see that the program had more possibilities than even they had envisaged. As composers, they themselves saw Sibelius as a means of self-publication, allowing composers to present their music to others and get them interested in it. It was obvious that, with only a few changes, Sibelius was capable of matching what's done by the great publishing houses such as Oxford University Press, which has been in operation for 500 years. There began a fascinating dialogue between the Finns and Sibelius users. The product development and improvements made between August 1993, when I started to use it, and now – just over a year – have been terrific.

The art of music engraving

Engraving is a very complex and secret art. There are rules governing the spacing of notes, the angle of the beams, the placing of sharps and flats, the height of note stems – it's not just done by eye. It's an esoteric art carried to a high degree of perfection. Many of these rules have not been written down but passed on from father to son within a family business. Until recently, if a medieval monk had walked into my room, he would have recognised what I was doing when writing a manuscript. If you look at the beautiful illuminated manuscripts, they were done in much the same way. But he wouldn't recognise what I'm doing now! There has been this giant leap in the last ten years since the use of computers for music manuscript began in the 1980s. Now musicians can themselves achieve the same results as the professional engraver, without the necessity of knowing all the rules or going through years of training.

Computerisation speeds up my work and saves duplication of effort, for example with orchestral works and the extraction of individual instrument parts from full scores. This is, in fact, highly skilled work and it must be immensely accurate. For example, you must ensure that page turns come at a convenient place where the instrumentalist is not playing. This is so much easier with computer-extracted parts and with a minimum amount of fiddling around, you can adjust positions of bars to make this work. You can imagine that when a copyist does this by hand, he may misjudge where the end of the page would come and would have to recopy the whole page or stick bits of paper onto it to make a fold-out. It can be very messy. Using Sibelius makes the editorial role much easier and the composer can make changes very quickly on the computer.

New horizons

The computer has changed my relationship with my publisher, too, and opened up possibilities to do my own DTP. I had never envisaged that I'd be the first composer to deliver a computer disc rather than a manuscript to HQ in Oxford. This has actually been an historic first for OUP. Impression and Artworks have also been surprisingly useful. My editor at OUP asked me to set the text pages at the beginning of a volume I'd edited – I'm not skilled at book design and yet, with a little help from others, I've set the index, preface and contents!

With my choir – the Cambridge Singers – I've unearthed some obscure pieces from the music library and we've recorded some musical gems, previously hidden for centuries. Having transcribed them myself, I've been able to provide copies for others to perform, where once they couldn't possibly have found them printed anywhere. To my surprise, I am now in the music publishing business with a partner in Nebraska, USA!

Playback or graphics or both?

The side of music packages which I haven't got into yet is the playback. Sibelius can now play back the music you've written and you can do sophisticated things like use 'fake' instrument sounds for various strands of your score. This is really useful for those experimenting with composing, to help them get their creative thoughts clear. It's also an immense boon for young people taking the first steps, who are not yet in a position to get together a group of players to try out the music for them and hear how it sounds. There is, however, one limitation: it cannot sing the words of vocal music... well, not yet!

Sibelius was not started with playback in mind, but as a graphics-based program. There are basically

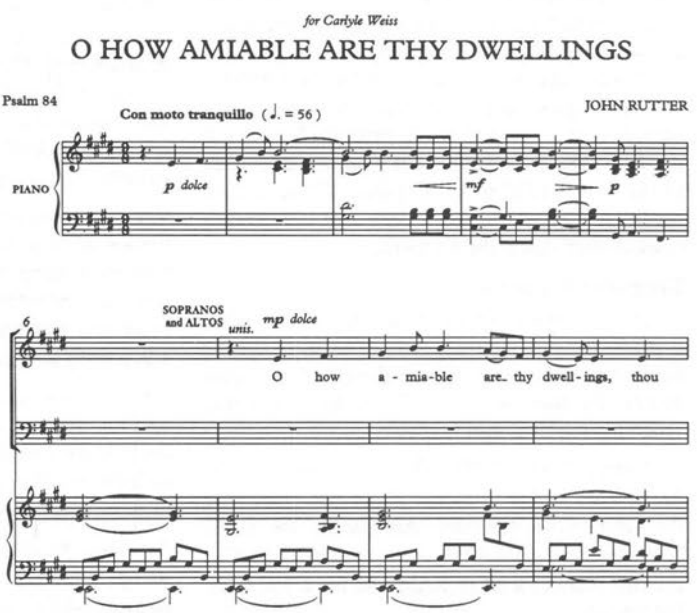
two sorts of computer music program: those that begin as graphics-based/music-on-paper programs and those that begin as sound-based programs, starting from the idea of hearing music that you've played in. They've tended to meet in the middle as the graphics packages have developed better sound facilities and the sound packages better notation facilities. But, for me, the point of Sibelius is high-quality graphics – the music it puts on the page is extraordinarily good.

The creative side of composing

My only reservation about using the computer is that it can take away time from composing. Composing is a simple but frightening activity, performed with those low-tech tools of pencil and paper. The younger generation may start composing directly into the computer but I find that the music I write is not conducive to composing at the computer. Certainly, Sibelius has transformed my working habits far beyond what I'd thought possible and it is ideal for incorporating improvements. But the creative part is the most mysterious element of being a composer or writer and none of us can control the flow of ideas or predict when they will come, what will be a good day or when a breakthrough will come.

Some composers get almost superstitious about it. For example, Haydn believed he could only compose well if he was dressed in his finest silk attire and put on his signet ring. Leonard Bernstein needed to stretch out on a hard floor, shut his eyes and almost sleep. (I was heartened that another composer besides myself does this – I too find that things will sometimes sort themselves out when you're not trying!) Ravel never let anyone within earshot when he was composing and the house had to be empty so that no-one could hear even a distant tinkle. But anyone could come and go when he was orchestrating. I know exactly how he feels! Wagner actually described the writing-out stage as a kind of peaceful 'Nachwerk' or 'after labour'. With scores the size of his, such as *The Ring*, I can't help thinking that he could have done with Sibelius!

We composers like our routines when it comes to the central act of thinking up ideas, but all the peripheral activities of putting music on paper are much less unchangeable. I am excited at the way computers have changed my working practices and removed the chore of writing it out. But although computers have got almost to the heart of what I do, they will never go to the heart of composing itself.

There's scarcely a day goes by without me using Sibelius and I've hardly touched my pen with its 'Time is Money' nibs in over a year. This is the way that composers and musicians in general are going. For me, the day of the computer did not come when they appeared as the great machine that hummed away in the office basement – it was when the computer came home to sit comfortably in my 15th-century cottage, the old and the new side by side – but not the unfriendly new.

I predict that the Finns will receive very widespread recognition for Sibelius in the next five years, if they maintain their innovative lead, their motivation and dedication. I and many others appreciate the trouble they take to do things absolutely right. Musicians are used to high level precision and accuracy in music and feel a strong bond with someone in another field who's trying to get things right. The success of Sibelius is well-deserved. A

PD Column

David Holden

The re-issue of the first Datafile PDCD is now available. I understand that it is now largely Risc PC compatible and the material which some people found offensive has been removed. It also has a new 'front end' which makes it easier to find what you want, plus a 70 page booklet similar to the one issued with the second CD.

The price is £30 from Datafile and probably less from either APDL or NCS *(£29 through Archive)*. I understand that you can 'upgrade' your original PDCD 1 for only a few pounds, but you will need to contact Datafile for details.

!HDspeed

A lot of people have shown interest in the rather crude hard disc speed testing program that I wrote for my own use and which was on Program Disc 7.1, accompanying my article about SyQuest drives. I was rather surprised to receive so many letters, often accompanied by lists of results. As it appears to be so popular, I have completely re-written it and turned it into a 'proper' Wimp program. So far, it is not RISC OS 2 compatible but if anyone does want to use it on a RO2 machine, please tell me and I'll modify it. I'll try to squash a copy onto this month's 'special offer' disc if there's room.

Programming tools

One area in which PD authors are incredibly prolific is producing programming tools. This is, of course, hardly surprising since most of these start out being written for their own use. There are also many programming languages available.

The much heralded 'first' C++ compiler for the Archimedes is due to appear about two years after the GNU C++ compiler. Admittedly, the GNU compiler is not particularly 'user friendly', (it's CLI driven), requires a lot of RAM and has a few bugs, but it's *free*.

Many of these tools are as good as, or superior to, more expensive commercial offerings. Some are, of course, not just of interest to programmers. Dominic Symes' *Zap* text editor, is an essential item for every Archimedes owner, whether a programmer or not. Similarly, anyone who likes to modify the appearance of applications should have a Dick Alstein's *TemplEd*. Unless you are an experienced Wimp programmer, you cannot afford to be without Paul Hobbs' *Event Shell*, which I have featured before, and all Basic programmers should have Ian Palmer's 'basic linker' *BLib*. All of these are not just good PD programs, they are (probably) the best available.

This is not as silly as it would seem. After all, good programmers like good tools, and are hardly likely to produce a tool for their own use which is inferior to something that they could obtain elsewhere.

As well as major applications like these, there are lots of smaller, utilities which make life easier for Wimp-programmers. These rarely get mentioned in the PD sections of magazines. I presume that this is because these columns are normally written by people who are not programmers, and so may not realise how valuable they can be.

Risc PC users should also be aware that the latest version of Zap (1.2) is fully Risc PC compatible (I've been using it for some months with no problems) and supports 24bpp colour. There are lots of other new features so if you have a version before 1.2, it really is worth upgrading.

This month's 'special offer' disc will therefore be a disc full of these utilities. At the time of writing, I don't know exactly what *will* be on it, but it will certainly contain Zap and Templed, and as many more programs as I can cram onto it.

As usual, to obtain a copy send £1 (cheque or stamps preferred) to me at the APDL address and please tell me if you can use HD (1.6Mb) discs. A

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RISC OS 3

TurboDRIVERS

VERSION 4

...more Drivers

The TurboDrivers have been extended to support new printers, including the Epson Stylus Colour and to be compatible with the latest versions of Acorn !Printers and the RiscPC.

...more Turbo!

In the simplest cases, printing single copies of black and white documents, with little or no graphics, the TurboDrivers give performance gains of twice or more. However, for more complex documents, or multiple copies, or for colour documents the gains can be even more spectacular.

Our tests show that when printing two copies of a typical 3 page document, containing a good mix of font styles, Draw and Sprite graphics, TurboDrivers can give control back up to ten times sooner than the Acorn drivers.

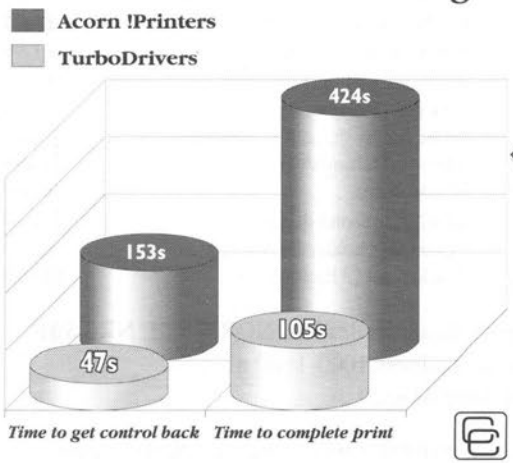
These tests are done with the Acorn drivers in 'background' mode (the new 'faster' way to get control back). When using the Acorn drivers in 'normal' mode the differences are even greater. The speed gains apply both to the older Acorn range and the Risc PC computers.

With the availability of new reasonable cost colour inkjet printers, and the increasing use of colour in printed documents, there is now even more reason to use TurboDrivers than ever before.

TurboDrivers Canon - £49 + VAT (£57.57 inc)
TurboDrivers HP - £49 + VAT (£57.57 inc)
TurboDrivers Epson - £49 + VAT (£57.57 inc)

Version 4 drivers require Risc OS 3.1 or later.
2 MByte RAM and hard disc recommended.
Please state printer type when ordering.

Risc PC TurboDriver timings



The graph shows the spectacular performance gains that are possible using TurboDrivers. These comparisons are made using the latest versions of !Printers, with a fairly complex single page DTP document (!MicroScope) on a colour inkjet and show that even on a Risc PC, the TurboDrivers can dramatically improve your printing performance.

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Comment Column

• **Apple just will not give up** – The latest "we did it first" adverts say, "Power Macintosh is the first *mainstream* personal computer to be powered by a RISC chip. RISC technology has previously been available *primarily* in highly specialized, very complex, very expensive engineering workstations" *(my italics)*. It makes my blood boil to see the way they can steal Acorn's thunder.

I was advised by one very helpful reader that it was no good asking the ASA to do anything as they have no real "teeth" – witness the fact that it took them some months to stop the original advert which was so blatantly untrue. They suggested trying the Trading Standards Authority, which I did. They said that unless the advert was "misleading to a material degree" then they could not do anything. I have no doubt that Apple's legal department (which is probably bigger than Acorn's Marketing Department!) have worked out what they can get away with, so there's probably no mileage in that direction, I fear.

Is there anything we can do? Well, I don't know if it will do any good, but I have written to Michael Hessletine as President of the Board of Trade saying that I think it is unfair trading and emphasising that it is a big US company against a small British one(!) so we'll see if he can do anything.

Surely there must be something we can do! Apple obviously realise just how important RISC is and just how important it is to get it into people's minds that "Apple is RISC". If Acorn had lots of advertising budget, they could leapfrog Apple's advertising and capitalise on it – dream on!

But I think there is something we can do. We can write articles in magazines, newsletters, professional journals, in-house company magazines etc, using the RISC-awareness that Apple have created to draw attention to the Risc PC. I have done one such article for the Church Computer User Group – OK, I know it's not a world-changing organisation (even though the church itself is supposed to be!!) but it's one more way of increasing Risc PC-awareness and every little helps.

OK, so this is what we do. First of all, I'll publish the CCUG article in this magazine (see page 39) so that you can see the sort of things you might say. Then if you know of a magazine in which you would like to get an article (especially if Apple have advertised in it) and you can write the article yourself, great! If you want to use any or all of my article, that's fine – no need to ask me about copyright although I'd like to see a copy before it gets in print if possible. If you want the text on disc to save re-typing, send me a blank disc and/or I'll put it on this month's program disc.

(If you want to offer your readers a free copy of the Archive booklet about the Risc PC, please feel free to give our name and/or phone number and/or email address. Blatant advertising? Me?)

If you don't feel able to write an appropriate article, or if you don't feel you can modify mine sufficiently, let me know what the magazine is, who the editor is, what its main readership is etc, and I'll see what we can do. If there are any Archive readers who don't have a magazine for which to write but would like to write, let me know your area of interest and I'll see if I can match it up with any requests.

Also, if anyone can think of particular areas, like the bible software and like Sibelius, where the software (or hardware) clearly sells the virtues of the Risc PC as the only machine on which it will run, do let me know and I'll publicise the fact as much as possible.

One possibly useful recommendation, which I didn't use in the CCUG article, is that Acorn hardware and software won six of the nine education awards in 1994 including the Gold Award in the Secondary category for the Risc PC itself. The reason I did not use that for CCUG is that it reinforces people's prejudice that, "Oh, Acorn? Yes, they are the educational computers – not the sort of computers we use in the real world".

Crusading? Me? Yes, I jolly well am! Why should Apple get away with stealing Acorn's thunder? Let's get an armada of small articles going so that we can show people in "the real world" that where Acorn leads, others, like Apple, will follow. **Ed.**

• **Clan Acorn – An ode...**

I'm a member of the Clan,
Aren't I a lucky man?
All these goodies I will get,
But I haven't seen anything yet!

The naff T-shirt has fallen apart,
But the sweat shirt still looks quite smart,
The literature was way beyond me,
I only understood one word in three!

The disc was useful, I think,
It must be on the blink,
Then I saw the magic 'HD',
And realised it wasn't for me.

The mouse mat was quite nice
But it was slippery as ice,
It now serves as a coffee mat,
I wonder what Acorn would think of that?

Yet the thing that puzzles me most,
And I'm not ignorant, I boast,
Is what is that logo meant to be?
It looks like a radio valve to me.

So can anyone suggest
Why Acorn should make such a jest?
Or have you got another idea?
I'm just longing to hear!

Paul Hooper, Martham, Norfolk.

• **Clan Acorn, the boss speaks** – Clan Acorn members will be please to hear that Acorn have appointed a marketing manager for Clan Acorn – Chris Cox. Chris has given us the following statement about where things are at with Clan Acorn.

"I'm very pleased to be working with Acorn and trying to develop things for the faithful band of Acorn enthusiasts now brought together under the name of 'Clan Acorn'.

"In particular, I want to use the Clan to set up a dialogue with enthusiasts, so that we can keep them informed about where Acorn is going and listen to the sorts of products they want. I will then be working with Peter Bondar and the Product Marketing group, to make sure that the requirements of this market sector are met. This is where dialogue is so important because it will give me the basis for the specification of products aimed at that sector.

"In many cases, the requirements will not be met directly by Acorn, but by one of the associated hardware and software developers. Examples of this are new products like the development board which Simtec are currently building, which will allow multiple processors to run simultaneously in a Risc PC.

"One question that I will keep asking the Clan members is what they want out of it. The results of the initial survey on the application form show that they mainly want information as early as possible – even before discounts on products!

"If any enthusiast wants to join Clan Acorn, they can write to me at Acorn House and I'll send them an application form, or send me an email to PM@acorn.co.uk or call Acorn Direct on 01933-279300." **Chris Cox, Acorn.**

(By the way, with reference to Paul Hooper's poem, Chris doesn't know what the logo is either – it was just something dreamt up by Acorn's graphic designers! Ed.)

• **Font Directory** – *(Let's all learn from these very honest confessions... Ed.)* For some time, I have been seeking a solution to the fraught problem of font management. And, at Acorn World 94, I found what seemed like a perfect solution in the shape of LOOKsystems' Font Directory. This was reviewed in Archive (6.12 p13), so I will just share my experiences of installing and using the product.

My hardware is an ageing, and possibly ailing, A310 with 2Mb RAM and a VGA display adaptor plus a full 40Mb hard disc. My fonts used to be in two separate Font Manager applications, one in my root directory for normal use and a larger collection in my DTP directory.

Because the hard disc is so full, it means that whenever there are major changes, these have to be preceded by periods of housekeeping. At such times, existing files are either copied to floppies or squeezed using ArcFS. This was my first mistake – I archived the fonts, freeing more than 1Mb.

Installing Font Directory required me to specify a Font Partition size. Subsequent experience suggests this should be as large as the hard disc surface would

allow but, lacking this insight, I made my second mistake and entered a value which proved inadequate for the number of fonts involved.

When my guestimated figure had been entered, installed itself onto the hard disc and tried to search through my existing font folders as a preliminary to offering fonts for installation into the Font partition. Of course, it did not find any because they were all locked up inside archives.

I deleted the incomplete application and reinstated the smallest of the archived font folders in order to give !FontMgr something with which to work. Even then, I failed to notice this was larger than my specified font partition. Two things went wrong. Firstly, when extracting files from the archive, some font data got corrupted. Secondly during installation, when the partition ran out of space, some fonts were only half-copied. There was no immediate indication of either of these problems.

Eventually, I seemed to have a working Font Directory application, so I decided to experiment with an application to see how well !FontDir functioned. I chose Ovation and immediately received a message that no fonts had been loaded. Fortunately, this was easy to rectify. I had overlooked an entry in the manual which specified that, following installation, the user has to set up defaults or otherwise you have to make selections each time fonts are used. Also, to have the default selection automatically available every time, you have to add a statement in the computer's !Boot file. Very simple to implement but (and this is where I made my biggest mistake) something to be avoided before Font Directory has been properly installed and tested.

Using Ovation also led to the discovery that some fonts would not work. Ultimately, I discovered the Font Partition functioned as an extension to the filing system and could be accessed as such. I copied the remaining fonts from their archives and also discovered how to enlarge the partition sufficiently to accommodate all of these.

At this point, a random event occurred – occasionally the machine seizes up and, Murphy's law dictates, it happens at the worst time. Pressing <reset> was the prelude to an hour of frustration. Because of the VGA adaptor, various modules have to be loaded by the !boot file before the machine can be used but this file also now contained the instruction to load the default selection of fonts. Unhappily, some of these were the corrupted ones, and they were preventing !FontDir from loading cleanly. For what seemed like an age, I kept getting "Bad Command" messages on screen as the machine tried repeatedly to load modules and fonts which were corrupted or missing.

Eventually, the desktop returned. To be on the safe side, I deleted the files yet again and reinstalled – this time without incident except for the corrupted files. When using the filer to copy files into the font partition, they have to be registered by the Font Manager compiling data about each font in the partition. This is available as a menu option within the application and, incidentally, has to be done each time new fonts are added or old ones removed. The first time I did this was without hitch, even with bad data. The second time, compilation was still apparently running after five minutes, which seemed far too long, so I pressed <reset>. I had visions of another lost hour but, luckily, there were no further problems. Quite why the compilation process occasionally goes to sleep I do not know, but it happened on at least two subsequent occasions.

Because of my problems, I telephoned LOOKsystems to ask for both help and further information. Adrian Look suggested file corruption might have occurred but, if this was not the case, was prepared to examine the relevant fonts with a view to diagnosing the problem. In the event, his guess was correct and the problem was solved by copying clean fonts from original floppies.

Here then is the moral of the story:

1) Do not resort to file compression. LOOKsystems actually warn against using their product with CC's Compression, and although !FontMgr is not incompatible with ArcFS, it might give rise to problems.

2) LOOKsystems recommend adding a line to the !Boot file in order to be sure of having a default selection of fonts loaded. I would add the caveat that, where applications like a VGA adaptor are present, the boot file alteration should not be made until the installation has been properly completed and tested.

3) One thing which most of us realise, but do not always implement, is that it makes a lot of sense whether installing a new font manager, or something much grander, to read the manual properly. There are two good reasons for doing this. It avoids the "Egg on face" feeling when speaking to the vendor and it also helps if you can indicate to them what other details could or should be added to the manual if and when revisions are made. **G.T.Swain, Edgware.**

• **Guardian's 'independent' comments** – Liz Roberts' comments in the International Guardian obviously drew a few complaints because on 18th December, they carried a reply – but not from Liz herself. Uncle Jack (Schofield) had to be wheeled in to protect her from the rabid Acorn-maniacs snapping at her ankles.

Jack admits that Liz could have been "kinder to the Archimedes". (Why refer to "Archimedes"? Hasn't Jack heard of the Risc PC yet?) But he says that, although you can buy an Action Pack for £299, it doesn't include a monitor and has no hard drive (implied: so it is useless). Just because PC's cannot function without a hard drive, he shouldn't tar Acorn with the same brush.

The rest of Jack's riposte boils down to "Acorn is tiny compared with PC and can't possibly hope to win the battle". What an attitude from a supposedly thinking newspaper! What he is saying is, he's not interested in whether Acorn machines are good because 150 million people have PCs and 150 million people can't be wrong. The only thing that PCs have is a massive user base and all that stems from that: big money, big inertia, big arrogance, big you name it... (these are Ed's comments based on a letter from...) **Bernard Maugoust, France.** *(Don't worry, Bernard, I'll take on the law suit! Ed.)*

Jim Nottingham sent me a clipping from the UK Guardian of 7th January in which Liz was allowed to make her own response. "my postbag has been bulging with messages from satisfied Acorn users complaining about my oversight." I should think so too! What's more, Liz actually mentions the Risc PC and says that it has "addressed the problem" of the "difficulties of running industry standard software at the GCSE / A-level end". But don't get too excited – she also says "buying an Acorn is like deciding to join the Shaker community instead of the real world" but claims that it was a quote from "an education software supplier"!

Listen, hasn't anyone considered arguments such as upgradability? If a school wants to be "industry standard", is it going to be prepared to go down the industry standard route of throwing its computers away and buying new ones every couple of years – oh, and buying new software and new operating systems every eighteen months because, if it doesn't, it will soon fail to be "standard"... (Yes, I know I'm preaching to the converted but I get so angry when faced with this sort of prejudice.) **Ed.**

• **Help files** – I recently bought PDCD 1 from Datafile and wanted to explore the disc but, at the same time, I did not want to waste time loading programs which were not likely to be of interest.

Because of this, I spent quite a lot of time looking for the !Help files of many applications. In many cases, they were not there and many of those that existed were not at all useful. Some of them referred me to a documentation file within the application, some contained a mini-manual and one just contained the update history of the program.

I then looked at the Acorn Style Guide to find what was recommended, but found that there was only a description of how the operating system used the !Help system.

To counter these problems, I would like to suggest an amendment to the Style Guide which should make !Help files more useful.

Firstly, they should be a standard part of every application, not an optional extra.

Secondly, there should be a standard set of contents at the start of the file:-

1) The name and purpose of the program. This need not be elaborate – something like: "Desk Top Publishing" is enough. For perfectly good reasons program names are not enough. What do !Ovation, !Hearsay or !Zap do? Given the limit of nine characters after the exclamation mark, and the reasonable wish that the name should be a recognisable word, there is not much that programmers can do to improve things.

2) The date of the current version, with its version number.

3) The name of the author and/or the company responsible for the program, with addresses and telephone numbers. Whilst it is good if the programmer gets credit, it is more important to have the publisher's address.

4) Are there any special requirements: RISC OS version, Minimum memory, Colour Card, Risc PC, MIDI card, etc?

Included in this section could be a note that the program is not necessary if you are running certain versions of the OS. This is the case with some programs that give OS3 facilities under OS2. I don't think that there is any need to mention the fact that parts of the program may be capable of using extra facilities if most of it will run in a basic machine.

5) The program status. Is it public domain, shareware, fully copyright or any other status that may apply?

6) Will the program run from a CD or other write-protected disc, or does it need to be transferred to another medium?

Any other information can follow these six items, but I believe that these are the things you need to know to run the program, as opposed to use it.

There will not be much work in preparing a !Help file for most programs, so it is not as bureaucratic as it sounds. The contents of the help file do not depend on the complexity of the program, but on its set-up needs. The information in items 1 to 6 above will usually all appear in the window which comes up when you ask for help, and can be looked at quickly – and often ignored! If you have any views on this, perhaps you would write with any further suggestions. **David Wild, Hemel Hempstead.**

• **Quote of the month** – Jack Schofield of the Guardian, in his report on BETT '95, says that Acorn is losing its grip on the education market and notes that *"the BBC B has all but disappeared"*. What? Already? Has the BBC B nearly died? Good gracious... and it's only been around for 13 years!!!

I wonder how many 386 computers Jack saw at BETT? Not too many, I guess – let alone 286 or 186 or the 8086 which, if memory serves me correctly, appeared around the time of the BBC Micro with its 6502 8-bit processor? **Ed.**

• **Squirrel comment** – Entering Data – In a recent issue of Archive (8.4 p51), I noticed that someone was complaining about having to use the mouse on a dialogue box when entering records into Squirrel. In fact, this isn't necessary. Press <f3> when you have finished entering the date, and when the dialogue box appears, just press <return> to say that you do want to write the record or, if you realise that the record isn't complete, just press the <N> key to return you to the editing mode. **David Wild, Hemel Hempstead.**

• **Squirrel import bug** – In my Squirrel Booklist file, I have the field for the ISBN (International Standard Book Number) defined as "unique" as there should never be two books with the same number. If a second one appears, it is either a data entry error or an attempt to enter the same book twice. When I came to import the file from the Psion, using the Squirrel import program, I did a test with four records which I knew already existed in the file. The first one was rejected, as it should have been, but the other three were accepted into the file without comment. I rang Digital Services who agreed that there was a bug in the Import program and sent me a copy of Version 2.08 of Squirrel which appears to work correctly.

A minor quirk of the import program is that it assumes that the first line of the CSV file contains the headings for the data, and ignores it, unless you make sure that you have removed the tick from the dialogue box. It isn't really a bug because, if you read the dialogue box correctly, you will change it but if you are in a hurry, it is very easy to lose a record without realising it. I hope that a later version will let you change the default because files from the Psion never contain the headings. **David Wild, Hemel Hempstead.**

• **Zap Corrections** – I was a bit sloppy when I sent Paul my bit about the !Zap text editor (Archive 8.5 p26). Firstly, I have only just noticed that Zap also puts about 170Kb worth of modules into the RMA, so my argument about Zap using very little RAM doesn't hold (I think, though, that Zap is so

good that this doesn't matter at all). Secondly, when creating my literary masterpiece, I wavered between calling myself an "occasional" or a "haphazard" programmer but the version I sent to Paul contained neither adjective, thus simply making me a "programmer" – something of an over-statement, I fear! I'm sorry about that! **Jochen Konietzko, Köln.**

Letraset and URW Fonts

Christopher Jarman

In my view, font choice has now got quite out of hand. Three years ago, when all I used was an Amstrad PCW, I was delighted to have three different type faces and I think, three different sizes for each.

I have been looking up my old reference books on type design, and names such as William Caslon almost bring tears to your eyes. Caslon, in 1734 published his list of 38 fonts, all cut by hand on the ends of steel punches, the work took fourteen years! Later John Baskerville and Giambattiste Bodoni designed typefaces now seen as classics, yet I suppose most school pupils don't even know that those names are the names of people.

I had already been very pleased with Datafile's Gothic and Medieval fonts. I also have the 200 Artworks fonts and a collection of around 100 Skyfall fonts. With a small number of my own design alphabets, I suppose I have almost 350 fonts to play around with. Now along come 35 Letraset and 75 URW typefaces!

But how does one review fonts? The aesthetic styles and their uses are a matter of opinion and personal taste. What one person finds attractive and useful, another finds thoroughly ghastly. Well, within all this choice, at least someone should be happy. Perhaps we should concentrate upon quality of production and skill of workmanship like the old type designers.

To begin with, the two sets come in attractive plastic wallets and are supported by very tastefully produced reference booklets. In fact, I am extremely impressed and grateful for the booklets as they show only three font examples per page with the headings in approx 56pt size which is very useful indeed. You therefore have a crisp and readable catalogue of the fonts.

There is an installation disc which works quite easily on the RiscPC. These fonts won't install without it. Both packs have concentrated on fairly conventional and traditional styles, and within these have provided a good span of variation. For example, there are 16 versions of Antiqua in the URW pack, ranging from Condensed to Super Italic. For users who do not have the means to play about with outline fonts, this is extremely valuable. However, with the Font Designer's Toolkit (iSV Software) which is also reviewed in this issue, I have to say that the days of selling varieties of the same font may be numbered; the Toolkit will do this for you, and more!

These fonts are high quality in themselves too. It is not just the booklets that have a superior look about them; the fonts when enlarged and taken apart for scrutiny have the full scaffolding and hinting which we have come to expect from this source. I compared Letraset Brushscript with my Skyfall Brushscrip Oblique, (the same design) and the Letraset is considerably better and stronger. The same goes for Algerian and Baskerville. Scaffolding is not even present in the Skyfall fonts, and the detail is much better drawn in the Letraset.

Both packs are of the highest quality and have some excellent upmarket and tasteful typefaces especially appealing to the person wanting to produce good looking cards, invitations and letterheads in DTP. Some examples are shown opposite.

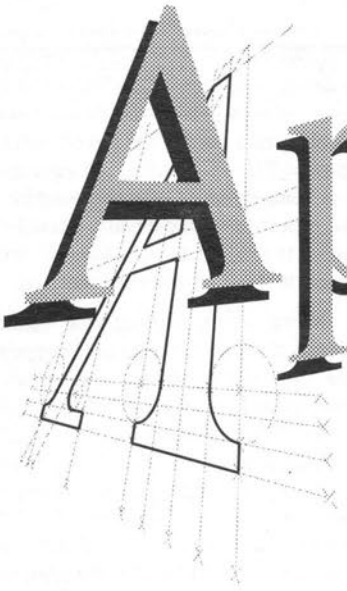
The font packs are: Letraset Pack £35 and URW Pack £75 both inclusive of VAT and postage (£34 and £72 respectively through Archive). Excellent value for money.

URW Antiqua extra bold

URW Englishe Schreibschrift bold

Academy engraved

Commercial Script



Apollonius PDT

Computer Aided Design

Spartan Simplicity

Olympian Power

Apollonius PDT is probably the easiest to use CAD system there has ever been, and yet has comprehensive geometric construction facilities, combined with realtime interactive parametric geometry - just drag a component and the entire drawing and its dimensions automatically adjust to suit. Can be used for technical drawing, mechanical simulation, animation and much more.
Apollonius PDT costs £150 +VAT. Upgrades from Oak PDT and WorraCAD £75 +VAT.

OAK SOLUTIONS

Oak Solutions Dial House Chapel Street Halton.
Leeds LS15 7RN Tel: 0532 326992 Fax: 0532 326993

E-Type 2

Andrew Rawnsley

Several years ago, when RISC OS machines were still in their infancy, Gordon Key developed E-Type and released it under the 4th Dimension label. The game was fairly simple in concept – race your classic car as many times round a long and winding road course until your time ran out. Successfully completing a track resulted in promotion to a more complex one.

E-Type received great critical acclaim, since at the time it was a ground breaking product – 256 colour graphics; fast, smooth arcade-style gameplay; lashings of humour and a real sense of speed. The game still has followers, being a landmark product in Acorn gaming history.

E-Type 2

Now, about five years later, Mr Key has produced a sequel, originally titled E-Type 2. The main enhancements include several two-player options, new courses, weather, a few new power-ups, Risc PC compatibility and a simple course designer.

Unfortunately, the main game engine doesn't appear to have advanced much more than a year beyond the original. We now have tunnels and more rolling hills but nothing that might make the game stand out from the crowd.

Loading

E-Type 2 can be played from floppy or hard disc. Copy protection takes the form of the standard 4th Dimension key disc approach. Double-clicking on the filer icon loads the game onto the iconbar, from where various game options can be turned on.

You can define keys, select which of the six tracks you want to play and choose whether or not to race against the computer, a friend or on your own. Sound levels can also be adjusted but anyone with the almost compulsory external speakers will have this anyway.

Playing the game

Once in the game, the screen appeared very narrow on a Risc PC, be it in one or two-player mode. It reminded me of Matt Black's Blood Sport game, which only used a third of the screen vertically. This fault may be Risc PC specific, but since the game is hailed as being designed with this machine in mind, I would expect full compatibility. I couldn't get 4th Dimension to send me the non-Risc PC version, so I was unable to test it on any other machine.

When driving along, carnival-style banners often hang across the road. Driving under specific points of these can yield upgrades to your car, such as lasers to blast any hazards in your way (including oil slicks and trees), oil which is only useful in two-player mode, extra time, radar blocks to avoid police speed traps and a variety of others. Some, including the lasers and the time, were useful but I got the impression that many other things had been included in an attempt to give the game something more than its predecessor.

Successfully completing a track is rewarded by your inclusion on its high score table, including your average speed and total time. You are also 'rewarded' with the same jingle that accompanied the original – how about a proper soundtrack rather than just using the StringLib voices supplied in the machine?

Two-player mode

This can take the form of computer vs human or human vs human. The standard way of playing is simply to race each other to the finish line, but you can also play in Pursuit mode, where the finish is removed, and the players race for as long as possible before that final fatal accident. The player travelling furthest when both cars collapse wins.

Unfortunately, there appeared to be no network or serial link game options, resulting in the traditional squash on the keyboard.

The track designer

To complement the package, a track designer is included. However, unlike the one available for E-Type 1, there is no graphical front end – you have to type in the details into a text editor such as !Edit and then compile the result with the supplied utility. It's crude but it works.

Conclusions

I find it hard to be positive about E-Type 2 but, if you absolutely adored the original, the new version might satisfy, but don't play against a PC or Amiga owning friend, as there are far better racing games on those platforms.

I would much rather play Stunt Racer 2000, either in one or two-player mode, the latter over a serial link (£32 through Archive + Extra Tracks £19) especially when you compare the price with E-Type 2 at £34.95 (£33 through Archive) A

The Non-Designer's Design Book

Mark Howe

The Non-Designers Design Book by Robin Williams: Archive price £13 inc p&p.

This is not the kind of book to lose easily on your desk, unless your favourite colours are yellow and purple. The 144 pages are slightly smaller than A4 and printed on art paper.

Unlike a lot of books about DTP, this one looks as if it has been designed by someone knowing something about DTP! The pages have a very light feel, with lots of white space and illustrations. Whilst looking attractive, the layout is not so flashy that it gets in the way of reading the book.

Design guidelines

The first half of the book deals with four design guidelines (Contrast, Repetition, Alignment and Proximity). In each case, the author explains the theory and illustrates it with copious examples.

The guidelines are all quite simple and, at first glance, they appear rather obvious. The strength of this book is the way it applies the guidelines to real typesetting problems. Everyone knows, for example, that items on a page should line up, but it is not always clear what this means in a given situation.

The illustrations are an integral part of the book and reinforce the message quite effectively. The 'before' examples are uncontrived, and the 'after' examples are actually an improvement. One of the 'before' examples looked just like a letter I received the same day! The emphasis throughout the book is on getting to grips with a few simple ideas and putting them into practice.

Choosing and using fonts

The second half of the book deals with choosing and using fonts. The author proposes a system for categorising fonts and then uses it to show how to introduce contrast and repetition through well-chosen font combinations.

It goes without saying that some of the fonts used are not available on the Acorn platform, or have different names. (One of the fonts was designed by the author's daughter!) However, this is not really a problem, because the specific fonts are only used to illustrate basic principles. Again, I found the majority of the examples convincing.

Using colour

There is a very short section on colour, which is less satisfying than the rest of the book. It is difficult to illustrate this kind of material in black ink, and on one occasion the author suggests that the reader colour in the pages himself!

Style

The book is written in a style which manages to be chatty without being patronising or irritating. Jargon is kept to a minimum and the few technical words which the author uses are explained and included in a short glossary. Some readers will skip the quizzes that appear throughout, but I forced myself to work through them and found that they did help to drive home the design guidelines.

Conclusion

This book is not in the '1,001 Arcane Typesetting Rules' category, and the author admits that it will never replace a four-year design course. It would also be a bad choice to take onto a desert island. (I read it the first time in an afternoon.)

It would be ideal for a WP user who has graduated into DTP and wants to produce better page layouts. I read it twice, and learned quite a few things in the process. I then redesigned a leaflet I was working on, consciously using the principles taught in this book, and the customer was delighted. A

Help!!!!

• **Apollonius PDT** – I'm having problems with this drawing package from Oak Solutions. Am I alone? Would anyone like to compare notes with me? **Brian Cocksedge, West Sussex.**

• **ArtWorks modules** – Two which I would like are: (1) Fancy lines which never make shapes for filling. This is for tramway and railway maps which use their own conventional symbols which are not the same as the dotted and dashed lines in Artworks.

(2) The ability to enter real dimensions for a drawing and have them scaled automatically. There are, for instance, many railway drawings available which show dimensions in feet and inches, and it would be useful to have the system do the scale calculation. I don't mind doing the feet and inches to inches in my head but the main scaling can be open to calculation error. I know that I could do it with a calculator, but the computer ought to be able to take that work from me. **David Wild, Hemel Hempstead.**

• **BBC Computers** – Has anyone got any old BBC Computers in reasonable working order? If so, we have more than one 'good home' to which they can go. The latest is a Down's Syndrome group who loan them out to parents who can use them with their down's syndrome children. **Ed.**

• **Bezier curves in Draw** – Is there a PD program which will convert freehand lines in Draw to smooth bezier curves as can be done in Artworks? **Add Campbell, Chuddleigh.**

• **MacFS review** – I have boobed over the MacFS/MacFS Lite/AppleFS review. I have had copies of Mac reading software going in and out to reviewers and am now totally confused. Has anyone got a copy of any/all of these bits of software and does anyone think they are the ones who are doing the review for Archive? If not, would anyone like to do the review? **Ed.**

• **Patience silly** – Sometimes it seems that the cursor doesn't want to let go of the cards when you have moved them to a new pile, and you have to move it back to where you started and try again. I haven't had any problem with other programs, so is there a bug in !Patience? It is obviously trivial, but it would be interesting to know. **David Wild, Hemel Hempstead.**

• **Phone exchange locator** – Has anyone come across the excellent !Exchange phone exchange locator? I have v0.82, written by M.S. Bright in 1991 and I'd very much like an update – it's really useful. The problem is that Mr Bright has omitted to put any contact details in the files accompanying my PD copy. Has anyone seen a more recent version and, if so, where can I get it? Also, is it PhoneDay-ready yet i.e. does it support the new STD codes? Any help you can offer would be much appreciated... **Richard Hesketh, Lampeter.**

• **Polish font** – Does anybody know where I can obtain a font to enable a Polish child to use the characters of their own language? !Chars does not have Polish characters. **Charlie Alford 0116-266-7566 (day) or 0116-266-0123 (eves).**

• **Printers 1.22 problems** – Has anyone experienced problems printing 'Grey 1' using !Printers 1.22 set to small halftoning? On my HP500C, I find the printed result is white (although printing using large halftoning works). To get round this, I have to swap between Printers 1.22 and 0.33 which involves resetting the machine. Does anyone have a more elegant solution? Contact via NCS office please.

• **Sprite files** – Does anyone know of a program for sorting the sprites in a sprite file into alphabetical order? This would be especially useful with Almanac which uses sprite files to keep its lists of categories. At present you have to search the lists and can easily miss one entry. **David Wild, Hemel Hempstead.**

• **Time added on?** – Does anyone have a multi-tasking application for totalling a column of hours, minutes and seconds? **Roger King, Guernsey.**

Help Offered

• **National Curriculum information** – I have Key Stages 1 to 5 for all subjects on disc. If anyone wants a copy, they can send me a formatted DD disc and an SAE or £1. **Robert Lytton, 7 Helmsley Drive, West Park, Leeds, LS16 5HY.**

Risc DOS Column

Simon Coulthurst

A few days ago, we installed one of the first PC486 cards in Simon's Risc PC! He hasn't had much time working on it, but here are his first thoughts...

Risc PC-PC486 card

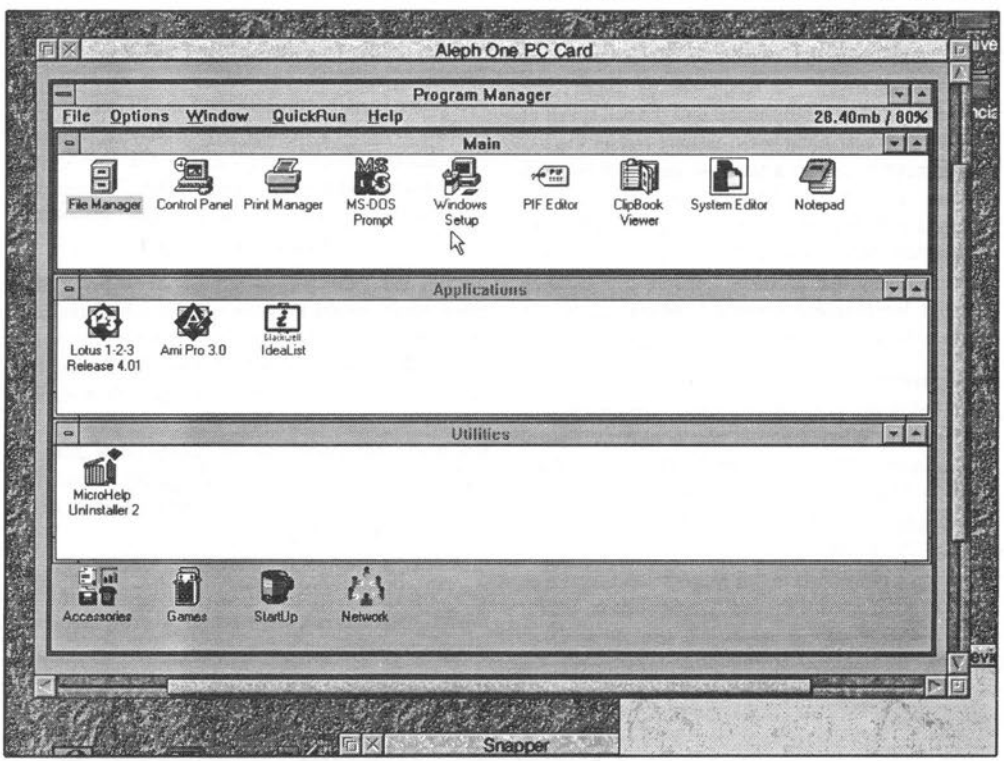
The first 500 cards are being loaned to the Acorn press and 'key dealers' in order to get as much coverage as possible before the general widespread release some time in April. The packaging of the cards states that this is a pre-production version and some of the documentation still requires finishing. This is, to all intents and purposes, the same card and software that you will receive if you paid the extra £99 at the time you purchased your Risc PC.

It arrives in the standard IBM PCDOS software box. Inside, an extra plastic moulding holds the PC486 card and its software as well as the PCDOS discs themselves. A rather neat outer sleeve, that blends in with the design on the IBM box, tells you that this is the Risc PC 486 card.

Installation of the card itself is straight forward. The Risc PC motherboard has two sockets for processor cards, one contains the ARM chip. If your ARM chip is in the back slot, it should be moved to the front (it works in either) because the PC card generates a certain amount of heat so you want the 486 chip furthest away from the ARM chip. The card itself is remarkably simple in construction containing just the 486 itself (marked as a SXL-40), the ASIC chip that's taken so long to finish, five smaller support chips and a handful of capacitors. That's it – neat, compact and effective.

The software

The software itself is slightly more complex. You need to be careful to follow the instructions given in



the User Guide. First of all, you need to install the latest version of DOSFS, which ensures that the contents of the DOS partition can be viewed from within RISC OS. Then the PC486 card software needs to be copied into a directory on your hard disc. This consists of !PC486, the application that lets you use the PC card, !PCConfig, for configuring the way the card operates and a ReadMe file detailing the latest information on the card and its software. There are also some Windows and DOS drivers in a separate directory. Windows itself does not come with the PC486 card, so you will need to budget for this if you wish to run the world's most 'popular' GUI.

Once the card and software are installed and the Risc PC has been rebooted, it is necessary to create a DOS partition on the hard disc. The card software takes care of this, creating a large file on the Risc PC that looks like drive C: (and D: if you have chosen to have two discs) when using the PC486 card. The installation of DOS takes place within the PC environment itself. Of course, your dealer may well do all this for you, if you ask nicely.

The PC486 card can operate in either single- or multi-tasking mode. In single-tasking mode, the RISC OS desktop is suspended and the full speed of the card is available. In multi-tasking mode, the PC environment is run in a window on the RISC OS desktop. This means that the card has to share resources with the ARM chip and consequently runs more slowly. Multi-tasking mode does provide a few extra features, like a menu within the window (selected by pressing <menu>) which allows the screen to be saved in sprite or text format.

Performance

First of all, I will give a purely subjective appraisal of performance. I have, within my company, several PCs running DOS and Windows. These range from a 386 at 33MHz up to a Pentium at 60MHz with several speeds of 486 in between. I have installed on the Risc PC PC486 card some of the software that we use on a daily basis in our business and used it as much as possible over the last couple of days. Whilst this is certainly not an exhaustive test, it has given me a feel for how the PC486 card performs relative to our other computers.

Loading software from floppy was slightly slower than our 486s and slightly faster than the 386. In use, the software felt reasonably fast and responsive, certainly better than the 386 and on a level with a Dell 486 33MHz that I use fairly frequently. The screen display was fast and accurate. It did have a slight problem when using the floppy disc drive – the mouse pointer would freeze momentarily whilst the disc was being accessing. This was hardly a major problem but it was noticeable. However, once I had become accustomed to it, it ceased to matter.

Secondly, I have shown some 'objective' benchmark results in the table below. In both tests, the higher the number, the better the performance, except in the last column *total time taken*, where a lower number is better. Of particular interest was the results for the Power PC / Soft Windows combination. If you were just to read the final result of the Windows User Benchmarks of 7.7 and 8.2, you would conclude that the Power PC / Soft Windows combination was faster than the Risc PC 486PC card. However in reality, as the last column shows, it was *significantly* slower. I believe the reason for this strange result is to do with the way that the Soft Windows emulation is designed. It is emulating everything in software, including the PC's clock tick, so there is nothing to stop it from slowing down the PC's internal clock thereby giving the illusion of a faster result than that actually obtained. When a stop watch is used to time the benchmarks, the truth is revealed, hence the final column results!

In use, the PC486 card actually feels faster than these results might indicate. Others who have used the card have said that it feels as though it is running at something like 75 to 80 percent of the speed of a comparable PC. I would go along with this. The second set of benchmarks, WinTach, uses a more real-world approach and its results show that the Risc PC 486PC card is only marginally slower than the real thing (again using the total time taken as the more reliable indicator of performance) as its total time is 1.56 minutes as opposed to 1.27 minutes for the PC. This is 77% of the PC result. By the way, the PC used was not some no name slowpoke clone, it was a fairly rapid Dell PC.

Compatibility

The 486PC card has been tested with Windows 3.1

Sample Benchmark Results

Windows User Benchmarks 1.0	Processor	Memory	Graphics	Disc Acc.	Windows	Overall	Total Time
486 PC / 4MB / 640x480x256	9.5	11.7	8.2	18.0	9.0	10.8	1.15
Apple Power PC / Soft Windows 640x480x16	4.3	11.3	44.8*	3.2	5.3	8.2	4.00
Apple Power PC / Soft Windows 640x480x256	4.2	12.0	31.9*	3.3	5.0	7.7	4.08
Risc PC 486PC card / 8MB / 640x480x16	4.7	4.5	8.3	9.8	7.4	6.6	1.45
Risc PC 486PC card / 8MB / 640x480x256	4.7	4.5	6.8	10.0	7.0	6.3	1.52
WinTach Benchmarks 1.2	WordPro	CAD/Draw	Sp'sheet	Paint		Overall	Total Time
486 PC / 4MB / 640x480x256	3.82	5.58	4.16	4.20		4.44	1.27
Apple Power PC / Soft Windows 640x480x256	1.80	3.62	3.96	4.54		3.48	2.38
Risc PC 486PC card / 8MB / 640x480x256	2.56	3.22	3.92	3.40		3.28	1.56

** The results for the Apple PowerPC / SoftWindows combination varied wildly for this particular benchmark during testing. Lowest figure recorded was 24.1, highest about 85. This latter result would indicate a graphics performance 8½ times that of a good 486 PC. This is a highly unlikely result, particularly in the light of the total time taken to complete the tests shown in the last column.*

Tested Software

Integrated Software
Microsoft Works for Windows
Claris Works
Microsoft Office Professional
Lotus Smartsuite

Wordprocessors
Lotus AmiPro
Wordperfect for Windows 6.0
Wordstar for Windows 2.0
Microsoft Word for Windows 6.0

Databases
Microsoft Access

Spreadsheets
Microsoft Excel
Lotus123 for Windows

CD-ROMs
Microsoft Encarta
Microsoft Dinosaurs

Games
Doom

and Windows for Workgroups 3.1 and 3.11. A beta version of Windows '95 has also been tested and runs. The software used during the development of the product to test compatibility is listed in the table opposite. Whilst this table is not exhaustive, it does cover some of the major packages available under Windows. As it is a particular favourite, I was also pleased to see that Doom features. I can also confirm that Idealist for Windows, Monarch for Windows, MicroHelp Uninstaller 2 (a useful package if you are using Windows software), Doom 2 and PlugIn (desktop enhancement utility) all run well on the 486PC card.

As suspected, you will need a large amount of memory in order to run the 486PC card at speed on your Risc PC. Whilst it is possible to run Windows and DOS using a 5Mb Risc PC, remember that the Risc PC still needs some of that memory and so the amount left to the 486PC card will result in a slow Windows environment. A 9Mb Risc PC is a much better prospect, with 6Mb allocated to the 486 environment, the remainder to RISC OS. My Risc PC has 26Mb which allowed me to allocate 12Mb to the 486PC card and still keep all my RISC OS software running on the desktop happily. The !PCConfig program is used to allocate the memory between the two systems as well as specifying the screen memory for the 486PC card. The more screen memory you allocate to the 486PC card, the higher the Windows resolution you can use, up to a maximum of 1024×768×256, although it is expected that this may be increased in future by a software upgrade.

The only compatibility blackspot is likely to be PC games. Whilst Windows games should run without problems, any DOS games, particularly older ones, that try to circumvent the normal PC graphic routines in order to gain extra speed, are likely to fail on the 486PC card. Fortunately, more recent games, such as Doom, are less likely to do this as PC's have become fast enough without these tricks.

Limitations

At the present time, OS/2 apparently does not work on the 486PC card although Acorn are working on this as well as ensuring full Windows '95 support.

Sound support is only available via a parallel port Soundblaster adaptor at present. When the Risc PC 16-bit sound card upgrade is available, it should be possible to load a software Soundblaster emulator that will allow the use of PC software that provides Soundblaster support. At the moment, only the PC beep is supported.

Although CD-ROM support is already provided, PhotoCD is not supported on the current software.

The ARMDRV.drv driver within Windows, that provides much of the speed of the Windows system, has a fault that causes GPF's with certain software. I have experienced this myself with the Microsoft Encarta '95 CD-ROM. Acorn are aware of this and have produced a new driver that cures the problem. They are sending me a copy to try out. At the moment, this is only an alpha release but it is to be hoped that, by the time the cards are generally available, this will be the standard version.

Certain DOS games may use older video modes that are not supported under RISC OS but it is possible to create a suitable mode in the Monitor definition file. If one is not available then the 486PC card will force the display into a multi-tasking window.

CMOS settings are constructed on booting the card and not saved in a real CMOS. Any applications that save their settings in CMOS will find the settings have been forgotten.

Availability

For all those people who have waited so patiently, the big question is, "When?!"

All the design and component work has now been completed and approved for the card, so commercial manufacturing can commence. It will be available from Acorn dealers from April 1995 at a cost of £99 +VAT if purchased at the same time as a Risc PC system. This price is also available for all Risc PC owners for a period of three months following release of the card. After this period, the card will cost £199 +VAT if purchased as an upgrade after purchase of the computer.

Shortly after this, Aleph One expect to have their enhanced versions available. These will be higher specification devices – priced accordingly. Aleph One have publicly announced that they will be developing a Power PC device. This is unlikely to support Apple software, however, as the licensing costs are too high.

Finally...

This review has been brief in order to meet the magazine deadline. Indeed, this may be the first review you will see in the Acorn press. I will go into more specific detail next month.

I can be contacted on email as: simon@agltd.demon.co.uk.

Small Ads

Small ads for **Acorn 32-bit computers** (i.e. not BBC's) *and related products are free for subscribers but we reserve the right to publish all, part or none of the material you send, as we think fit. i.e. some people don't know what 'small' means and there are certain things, that we would not be prepared to advertise as a matter of principle. Sending small ads (especially long ones!) on disc is helpful but not essential. Ed.*

• **A3000, RISC OS 3.1** 4Mb RAM, 80Mb SCSI, RGB monitor, PRES monitor stand and expansion case, VGC £500 o.n.o. Phone 01671-403441.

• **A310**, 4Mb, RISC OS 3.1, ARM 3, 120Mb HD, RGB monitor, backplane, external 5¼" drive interface. £400 o.n.o. Phone 01247-460959.

• **A4 model II**, 4Mb RAM 80Mb HD, carry case, spare battery, £1,300 o.n.o. Phone Adrian on 01603-748253.

• **A410/1,** 4Mb RAM, 80Mb SCSI HD, AKF18 monitor, First Word Plus2, Acorn DTP, ScanLight 256, Aleph One 486/25 card with 4Mb RAM DOS 6, Windows 3.1 Priced for quick sale £450. Phone 01865-201409.

• **A540 8Mb**, 120Mb SCSI, RISC OS 3.1, £800 o.n.o. CC Scanner, updated software £50. Original packaging/manuals. Phone 01983-753829 (eves).

• **A540 8Mb**, 120Mb SCSI HD, ARM 3, RISC OS 3.1, FPU socket, Panasonic multisync monitor, £650 o.n.o. Phone 01904-410491.

• **A540 12Mb**, Colourcard, ARM 3, RISC OS 3.1. Offers over £500. Phone 01603-765073 (day).

• **A5000** 4Mb RAM 40Mb drive OS3.11 with Oak SCSI card + 100Mb drive + Toshiba XM3301 external CD-ROM + Colourcard Gold + Taxan 795 Multi-sync £700. Phone 0181-679-0805 (eves).

• **Acorn Desktop C £49**, PC Emulator v1.81 £49, S-Base Personal £49, Investigator III £39, ArcFax v1.10 £25, Almanac 3 £39, Personal Accounts 3 £25, Split an Image £8, Glimpse £5, Snippet 2 £29, Chocks Away + Extra Missions £15. Phone 01626-853774.

• **Archway** £25, AlphaBase £10, Alerion £5, Artisan 2 £10, Artisan Support Disc £5, Break 147 & Superpool £15, Blowpipe £10, Corruption £10, Conqueror £10, Desk Top Thesaurus £10, Drop Ship £10, EMR Soundsynth £15, E Type £10, E Type Designer £10, Fugitives Quest £10, Holed Out Compendium £10, Hoverbod £5, HP Printer Drivers £10, Inertia £5, Sporting Triangles £5, Nevryon £10, Orion £5, Quazar £5, Rotor £10, Rise In Crime £10, Startrader £5, Terramex £5, The Pawn £10, Thundermonk £5, Herewith The Clues £10, Word Up, Word Down £5, WordWorks £20, Zarch £5. All boxed with original docs. Phone 0442-822875 6pm-9pm.

• **Games** – Saloon Cars Deluxe, Chopper Force, Black Angel, Birds of War and Lemmings. All ex cond but all (except Black Angel) incompatible with Risc PC. £8 each. Phone 01674-830895.

• **Hard Disc 45Mb**, Oak External SCSI, offers, or exchange for ST506 Hard Disc to suit A440 (internal). Phone Steve on 01452-618742

• **Midi** (Acorn) and Studio 24+ (v2) £80, DTP £35 with extra clipart, MS-DOS 5 for PCEm £30, GammaPlot (v2) £15, System Delta+ (v2) £25, Genesis 2 £20, Investigator II £10, Bonjour de France – Ma Ville £20, Chemistry £10, Healthdata £5, Telecommunications £8, Zarch £6, Word Up Word Down £3, Genesis Script Language £5, MS-DOS Quick Reference £5, RISC OS 2 PRM's £35. All software with original documentation and packaging. Phone 01737-832159 (eves).

• **New unwanted software** – Eureka 2, Notate 2, PenDown Plus and Revelation ImagePro. Also PinPoint for Windows. All offers considered. Phone 01487-843526.

• **Qume Laser Direct** with recent new drum (done 2000 copies approx) includes 1 toner refill, will shortly work on Risc PC with new card from Calligraph £500 o.n.o., Qume Drum (unused) £100, Advance unopened, unregistered £75 contact Paul Cayton. Phone 01943-878133 (eve) or 0113-277-7711 (day).

• **Scavenger Scanner** (Beebug) 200-400dpi, with documentation £50 o.n.o. Phone 01442-822875 6pm-9pm.

• **Wanted** – Does anyone have a Panasonic KXP1124 that is no longer used? We'd be happy to take it off your hands for a small consideration! Phone Paul on 01603-766592.

• **Wanted** – Impression Junior, version 1.19. Please contact Peter Young, Appleby House, 20 Racecourse Lane, Northallerton, DL7 8RD.

• **Wanted** – Mitsubishi MH105AL-Y1E or any other grey scale scanner head for a CC ScanLight card. Also, information on other grey scale scanner heads to work with ScanLight. Please contact Peter Young, as above, and I will refund postage for any info received.

• **Wanted** – Multisync monitor in good working order not more that £200. Phone 01626-853774.

Charity Sales

The following items are available for sale in aid of charity. PLEASE do not just send money – ring us on 01603-766592 to check if the items are still available. Thank you.

N.B. These items are sold AS SEEN (even though you can't see them!), i.e. we are not able to give refunds if the items are not suitable for your computer or whatever. All the money paid goes straight to charity therefore NCS cannot be involved in correspondence etc over these items. If it turns out to be no good for you but might do for someone else, please send it back with a note and we will sell it again with the proviso you state, e.g. "It doesn't work on a Risc PC."

Software: Five assorted old games £5, Easiwriter 2 £10, Archway £10, Datavision database £6, Colour

Fun £2, Multistore £25, QuickShow + SlideShow £3, Chess £3, Wimp Game £5, Haunted House £4, Iron Lord £5, Photopia £10, Acorn DTP £4, PC Emulator 1.8 £30.

Hardware: Psion 3 £70, A-Link £30, Psion Chess £20, 128Kb RAM, Floppy discs £12 per 50, PCATS Graphics enhancer £20, Acorn Econet interfaces (10 off) £15 each, £35, Green ink refill for HP cartridge £8, Cyan ink refill for Canon BC01 cartridge £8, Yellow ink refill for Canon BC01 cartridge £8.

(If you have unwanted software or hardware for Archimedes computers that you could donate for charity, please send it to the Archive office. If you have larger items where post would be expensive, send us details and how the purchaser can get hold of them.) A

Hints and Tips

• **DPatch/DongleKey** – Contrary to S Goddard's comments about DPatch (8.5 p32), in my experience, DPatch is needed on the Risc PC if a Publisher dongle is fitted, but Publisher has not been loaded. Any comments? **F Jukes, Leeds.**

• **Mode summary** – This was written for those with hires/multisync monitors and shows what is available.

Mode	Size	Memory	Refresh	Speed	Colours	Shape
Acorn standard modes						
12	640×256	96k	100Hz	4.79	16	Rect
20	640×512	160k	51Hz	4.7	16	Square
21	640×512	320k	51Hz	2.59	256	Square
27	640×480	160k	59Hz	4.57	16	Square
28	640×480	320k	59Hz	2.12	256	Square
31	800×600	256k	37Hz	4.69	16	Square
39	896×352	160k	60Hz	4.51	16	Rect
40	896×352	320k	60Hz	2.08	256	Rect
Modes from Newmodes, VIDC enhancer or WW modes						
66	832×288	128k	79Hz	4.57	16	Rect
67	832×288	256k	79Hz	2.03	256	Rect
98	800×600	256k	57Hz	4.99	16	Square
(99 should be 256 colour version, but my Taxan 770+ won't work with it)						
102	1152×448	256k	51Hz	5.06	16	Rect
107	1088×432	256k	60Hz	5.13	16	Rect

The choice of screen mode is a trade-off between the various factors and how much you want to get on the screen and one time.

Refresh speeds depend on the individual, but I find the 51Hz of mode 102 flickers too much on my monitor, so I designed 107. The higher the better with refresh rates.

Speed refers to how much the screen mode slows down the ordinary Acorn computer. To keep the screen re-drawing quickly, use a mode with a higher figure.

Square screen modes give a better idea of what the final result will be like, though rectangular modes are usually quite adequate except for accurate graphic work.

All the information was gathered using Flip Top from Computer Concepts. **Steve Hutchinson, Gloucester.**

• **Style/Publisher file sizes** – Robert Lytton was writing about graphics eating up disc space when used on several master pages within an Impression document. I had the same problem with my "stationery" document, containing master pages for A4 letterhead, A5, US letter (for sending a fax to North America), comp slip, etc – each had my squiggly logo – about 30Kb compressed.

I was pleased to find that Impression's 'Select-Adjust trick' works: Make a blank frame on each master page, drop the graphic into one of them, then click <Select> on it and <Adjust> in all the others. Bingo! The graphic appears wherever you want it but only once in memory. The "master" chapter behaves in the same way as ordinary chapters in the document. **Jim Nagel, Glastonbury.**

• **Updating software** – When updating a piece of software, it is tempting to simply copy the new version over the old version with the newer option set. This is not ideal, however, since it leaves old redundant files in the application, taking up space. Therefore it is better to delete the old version (or move it elsewhere if you are worried about losing it) before installing the new. **Roger Darlington, Manchester.** A

Video Editing

Edward Croot

Wandering around the Acorn World show last October, the use of moving images to enhance the delivery of information was clearly on show. Multimedia applications using short clips to great advantage were to be seen in all corners of the hall. Computer Concepts were demonstrating their MPEG replay board but, as yet, there is no facility for the home user to be able to make their own MPEG films with full screen, high quality pictures.

Most of the programs on show were great for the moving snapshots required by many multimedia programs but if you want to take your home movies, record them into your computer, edit them, and transfer them back to tape with at least VHS quality, the Acorn system is not quite there. In anticipation of progress in this field, there are two economically priced editing programs which were on display. One was Eidoscope, of which more later, and the other was Empire.

Before the advent of Eidoscope, the nearest technique to allow you to edit your own movies was to use the Millipede board in conjunction with the Risc PC and the Eidos video compression system to store your film, and then use the professional "Optima" system to do your editing. The picture quality is good, but you need lots of storage, a big hard disc, and preferably removable hard discs. To play back, you need at least an ARM 700 to provide the processing speed. Eidos anticipate that, with the faster ARM chips, they will be able to match the quality of the two dominant non-linear editing systems currently used in the professional field, at a price which would make the others seem rather expensive.

The MPEG pictures I saw on both the CC and Anglia stands were impressive, but I was disturbed by some jerky movement during panning and tracking shots. This isn't totally surprising because any system which relies on information from adjacent frames to reconstitute a frame is going to have difficulties coping with the total change in data involved in pans and tracks. However, as with "Optima", these problems will be overcome by using more and faster processing.

On the animation front, I liked the Iota Complete Animator package, but I was disappointed that the Replay files it produced wouldn't load into Eidoscope – that would be a great way of adding animated titles, etc. (I found that the replay files which come as demonstrations on the Risc PC don't load into Eidoscope either but I presume that there is an incompatibility of frame rate as Eidoscope is only a 12½ frames per second system.) Complete Animator is an easy program to run, assuming that you have the ideas in the first place to produce your cartoon. My 23 year old son got hooked on it at Christmas and rapidly produced a sequence of a lunar module landing, the spaceman disembarking, and then the lander taking off leaving him stranded, with appropriate sounds! The bare minimum of reference to the draft version of the manual was needed, but I look forward to receiving my full version in due course.

Back to Eidoscope. For some time now I have used the Eidos "Optima" professional system and have found it an easy system to use, and I look forward to being able to use the Risc PC version, with its improved picture and sound quality, so it was with great interest that I installed the junior version which is Eidoscope.

The program requires a Risc PC fitted with an Eagle M2 card. Installing Eidoscope is easy – a straight copy of the program onto your hard disc. In addition, an 'Install' program updates the !ARMovie and !TakeTwo modules so that the movies can be replayed at a higher quality than would otherwise be

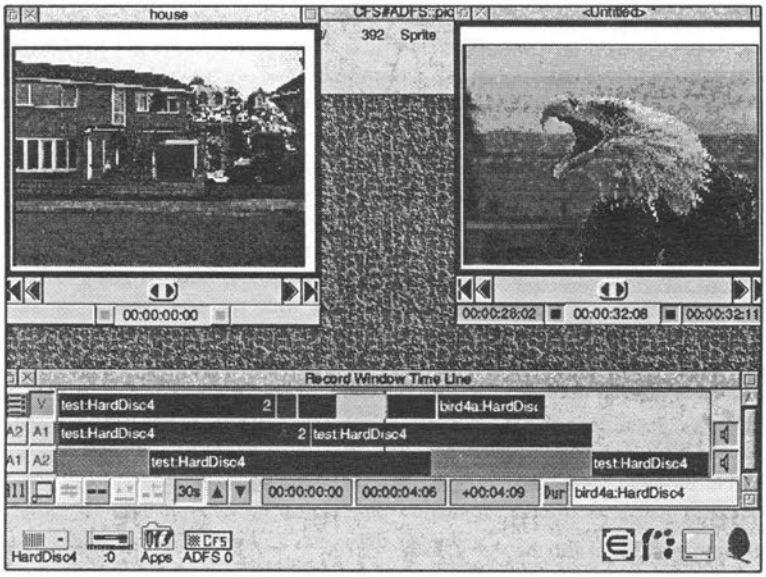


Figure 1

duces two blank boxes and a blank timeline. Figure 1 shows the layout with pictures and sound loaded. You can consider the left hand box as the source video window or player, and the right hand box as the recorder. To load your video, you drag the file icon into the player window. After a short burst of hourglass activity, the first frame of your movie appears.

Under the frame a number appears in the centre, Figure 2. This number represents the frame displayed. In the professional program, the timecode identifies a specific frame from the original tape but this timecode is a measure of your film from its first frame. To the left of this number is a button which is used to identify the first frame of your chosen shot. To the right is the button to choose the last frame. Clicking on the outside icons moves you instantly to the first or last frame of the whole film. The inner ones are of more use on the record side and they move you between the first and last frame of the current shot. The middle icon acts as a slider allowing you to step through your movie from single frames to the equivalent of fast wind on your video. To play at normal speed, you put the cursor into the picture box and double click with <select>. The hourglass shows whilst the first batch of data is drawn from the disc, and then your movie leaps into action. As your film runs, you will notice that the hard disc is continually being accessed. To stop, just click anywhere on the screen.

possible. Using the !TakeTwo digitising program and the ESCaPE real time video compression module, you can capture movies, but a 33 second movie on my hard disc consumes some 5Mb. The amount varies according to the complexity of the scene. The module AudioWorks allows different sound qualities to be selected and, obviously, the higher the quality, the more disc is required. Whilst recording, a flickering black and white image is shown, as the processor is fully consumed in converting the incoming video into digits. Don't be put off by this, the picture stored is in full colour. The stored movie can be viewed back in the !TakeTwo window as a confidence booster. The resultant video is only 12½ frames per second, but I didn't find it objectionable. The movies I recorded ran remarkably smoothly. The !TakeTwo application allows some video adjustment to the incoming signal, brightness, contrast and colour saturation but I never found it necessary to use these.

The Eidoscope master disc is used as a key when first running the program. It likes an 800×600, 32,000 colour mode. If your computer is set to a different mode, there is a 'best mode' option on the Eidoscope icon menu. Running the program pro-

It is harder to describe how to work the program than it is to do it. If you understand the basics of editing, you will take about five minutes to become operational. The manual takes you through the functions of the program in a straightforward

Figure 2

manner. If you look carefully, you can even see the Eidos MD appearing in a demo picture. To do your first edit, mark your 'in point', run the film until you find the 'out point' then mark it. The two buttons will now be red, and the frame numbers of the in / out points will be displayed. (Figure 3) Now drag and drop the picture across to the record window, and your first shot appears with the time line graphically showing the picture and track information. The image has a row of circular symbols on the top and bottom. This is to tell you that the film is parked one frame after the last frame of the scene. When you drag your next shot over it, it will tag onto the last scene from this point with no action on your part. This allows you very quickly to compile the shots you want from your rushes.

In your timeline window, you will now see a blue line which represents the picture and a red one which represents the sound. Eidoscope allows you to have two independent soundtracks enabling you to build up different effects on each, which can then be mixed using the levels module to be found on one of the menu lists. Each shot change is represented by a white vertical line on the video and sound lines. By clicking on the time line, you can move up and down the film as an alternative way of moving around your shots.

The great thing about computer editing is the ability to move to and fro through your film, cut shots out and paste them in a different place, all as fast as you can click the mouse buttons. When making your edits, you can choose to copy your picture alone, or picture and sound, or sound alone. Eidoscope allows you to do all the standard mixes and wipes. Effects are shown as grey boxes on the video timeline. To do these with tape machines, you would need three – two players and a recorder. In addition, you would need a vision mixer which has the capability to produce the effects, and a controller which can accurately control your VCRs. Eidoscope does these effects instantly.

There are two options to save your work. One is the log option. This tells the computer where the original shots are on your discs, so that they can be found by Eidoscope when playing the film at a future time. The second is the Replay option where the Eidoscope pictures are saved as a Replay file. The program takes the option of compressing the pictures a little more. It takes a while for the compression and saving to take place, so it's worth getting your camera out and going to shoot those retakes that you've discovered you need.

Without a separate card, you can't output your video to a VCR but if you do, you can produce a full screen image by using a 320×256, 32,000 colour mode. The results are passable, not dissimilar to second generation VHS, with the benefit that the

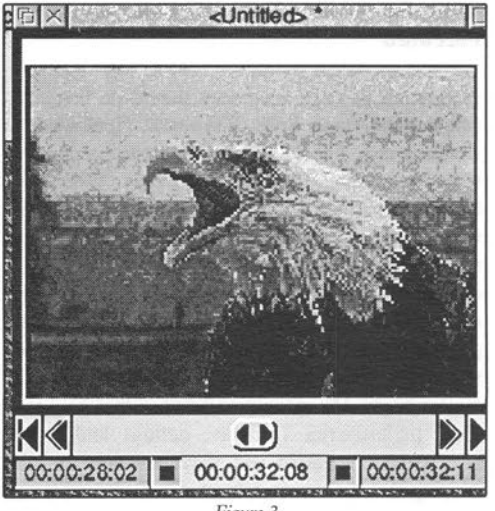


Figure 3

picture quality doesn't vary, no matter how many copies you make, and with none of that awful ringing so commonly produced in dubbing VHS.

This program has the great virtue that it is open-ended and, as the faster multiple processors become available, the quality can be improved as a software upgrade. As packages like this become available, they can do nothing but good for the state of domestic film-making. If you produce wobbly pans and trombone zooms, you will soon realise how difficult they are to edit. The virtue of steady shots, planned sequences and the basic grammar of wide-shot, mid-shot, close-shot will become apparent. Who knows, you may find visitors saying, "Please may we see your holiday movies?" A

Gerald's Column

Gerald Fitton

Thanks for your letters. So many of them have asked about setting up printers and printing in background that I've decided that, in spite of many other temptations, and as a continuation of my document production theme, I shall devote this month's column to that subject.

Before I do just a quick note. You can now buy Fireworkz Pro. This is an upgrade to Fireworkz (new features) which you have to pay for. It includes the long-awaited database, Recordz. Although I shall review Fireworkz Pro as soon as possible (next month), my reaction from my first month's use is that it's good and you'll like it!

Also, on the monthly disc, I have included a second solution (in Basic – still not a spreadsheet) to the rounding problem by R W Newmark.

Foreword

When I am asked by newcomers to any document production package what they should do first, then whether they have Style, Fireworkz, PipeDream or anything else, I reply that it is most important that they configure their printers correctly. When they have set up their printing arrangements (complete with all the paper sizes they usually use) they can move on to selecting their 'global' options (usually choices or preferences from the iconbar) and 'local' options (usually a template or, with Style, master pages). Finally, they should create at least the basic styles they are going to use with those templates or master pages. My recommendation is that only after these preliminaries (printers, options and styles) have been completed will they be ready to start creating their first masterpiece!

This month I shall concentrate on printing. Sometime in the future (after reviewing Fireworkz Pro?) I shall move on to options and then to styles.

Introduction

A question which comes up time and time again is "How can I get my Archimedes to print in background whilst I get on with something else?" A second question, or should I say set of questions, relate to unwanted page feeds and (whatever you try) the printer refusing to print at the right place.

In this article, I hope to help you select a suitable RISC OS printer definition for your printer and explain something of the way in which they work. If you can't find a printer definition which is an exact match for yours then, by following the contents of this article, you should be able to modify one of the existing files for use with your printer.

I shall tackle the second series of questions before explaining how to print in background!

The new RISC OS printer drivers

Acorn have now issued a new printer driver, Version 1.22, which is available as Archive Utilities Disc N°7 at £2. If you don't have Printers v1.22 (or later), I suggest that you buy a copy from NCS. You can use v1.22 only if you have RISC OS 3.1 or later. A new version of the [Colours] module (v1.57 06 Dec 1993) is included with v1.22 which, in my opinion, improves colour rendering.

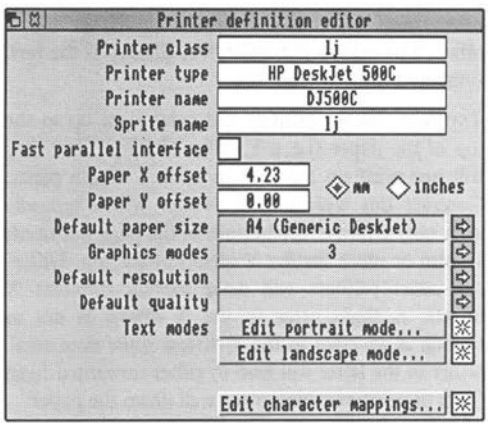
To demonstrate what you have to do I have chosen to look at the printer definition files supplied by Acorn for the HP DJ500C inkjet and the LaserJet-III laser printer. I shall also discuss two other printer definition files called [Int00] and [Int01] – I shall explain how I developed these from the [DJ500C]

for use with my Integrex Series 2 colour printer. Even if you don't have either of these printers, you should still find what I have to say useful and you should be able to apply the principles to your own printer. If you have the Archive monthly disc, you'll find all the custom files to which I refer on that disc.

Loading PrntDefn files into !PrintEdit

Included with your RISC OS 3.1, on disc, you will find the utility !PrintEdit. Make sure that your operating system has seen !PrintEdit and then double-click (without holding down <Shift>) on [LasJet-III] and it will load into !PrintEdit. I have two versions of PrintEdit.

My early version is 0.27 (14-May-92); it does not install on the iconbar! If you have the early version, place the pointer somewhere on the left of the printer definition editor window and click <menu> and choose Info and you'll find the version number. My later version is 0.38 (15-Jun-94) and does install itself on the iconbar. It is available from NCS as Utilities Disc N°8.



The paper offsets

When a PrntDefn file is loaded into PrintEdit, the current values of the Paper X offset: and Paper Y offset will appear in the dialogue boxes. If you haven't modified the [LasJet-III] file, these are 4.99 mm and 11.17 mm respectively (or 4.83 mm and 11.09 mm if you have a different version of Printers from me). Let me make the point most strongly that these values may be correct if you have bought a genuine HP Laser Jet III (with an 'HP' on it) but they may not be correct if what you have is an HP Laser Jet III clone! If you have a clone, you may have to change these values. My Integrex is an HP DJ 500C clone and the offsets I need for the Integrex are different from the offsets built into the [DJ500C] definition.

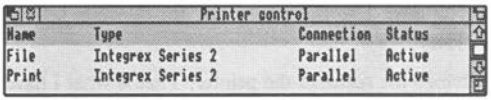
Is a small error in the offsets important? Yes! If you have configured your !Printers so that these offsets are wrong by 0.5 mm or more, you may get a whole host of printing problems out of all proportion to the offset errors. Problems range from printing slightly out of position (not too important) to unwanted form feeds (almost impossible to find out why). Some people have found that printing starts half way down the page when the Paper Y offset is less than a mm out!

I don't know why the offsets are so sensitive but I think it has something to do with the way in which negative numbers are handled by the printer driver. Anyway, you have been warned! Get these offsets right before you do anything else and you won't regret the time, paper and ink you spend!

Loading a PrntDefn file into !Printers

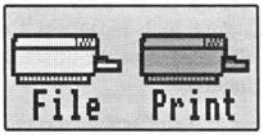
Before you can print anything, you will need !Printers on the iconbar and loaded with a suitable printer definition file. The paragraphs below explain how to do this.

When you first load !Printers, it will appear in grey as 'Printers' on the iconbar. Whatever the colour of the icon, click <menu> on it and select Printer control. A window called Printer control will appear. Drag your first choice of printer definition file, e.g. [LasJet-III], into this window and the name of the icon will change, in the case of [LasJet-III], to LsJet III.



If you have an inkjet printer with a definition of 300 dpi and don't know which printer definition file to use, try [DJ500C] or my [Int00] printer definition file. Canon bubble jets have a resolution of 360 dpi, so these HP-type files are unsuitable. I believe that one of the dot matrix PrntDfn files might be a good starting point for the Canon printers – but look at

the [ReadMe] file which comes with Acorn's Printers disc.



Drag in another copy of your printer driver, or even another printer driver, and you will find that an extra printer icon appears on the iconbar! You can add many such printers to the iconbar.

When I was deciding exactly what paper offsets to use, I created five printer definition files, each having slightly different paper offsets (and with slightly different names) and then printed out my [Top_Left2] file (see later) with each of them until I found out how the paper offset parameters worked!

Whatever printer you have

Firstly, here is a general statement which absolutely true but which might be of no use to you whatsoever! The ideal values for the X and Y offsets correspond exactly to the position of the print head over the paper before printing starts. You measure these offsets from the top left corner of the page to the position of the printhead, X horizontally and Y vertically.

If the printer control dialogue box is not on screen, click <menu> on any printer icon on the iconbar and then select printer control. The printer control dialogue box will open. Now click <menu> on your chosen printer and select Configure. You can use the dialogue box which opens to choose a paper size for your experiments. One of the choices for paper size is one called "A4 paper size". It is characterised by having all its graphics margins and text margins set to zero. Use this paper size for the tests set out below.

Change the name of the printer. That is what I have done to create my two printers called File and Print. I have chosen these names because the File printer prints to a file and Print prints from the file to my printer. I explain how to achieve this later.

Printers which use HP codes

On the monthly disc, you'll find a Test directory containing two printout files [GreyRect] and [Pointer] which are written in HP code and thus are suitable for use with almost any laser or inkjet HP printer and their clones (such as my Integrex ColourJet Series 2). Use them with your choice of printer definition file. They will print a mark at the top left of the paper. I prefer to use [Pointer] (for which I am indebted to Bruce D Brown – see below) rather than [GreyRect].

Measure the distance between the top left of the printed graphic and the (left and top) edges of the paper. Measure these carefully to the nearest half mm. By the way, the offsets round up to the next quarter of a point (i.e. 1/288th of an inch or 0.088 mm) so after saving and reloading, you'll see some strange values in mm because they are rounded in quarter points.

Make a copy of the printer definition file you used – give it a different name. I started with [DJ500C] and made a copy which I called [Int00]. I loaded [Int00] into PrintEdit, changed its (internal) name, changed the X and Y offsets to 0 mm and I saved the file. I used [Int00] with the test file [Top_Left2] (see below) and found that I needed to change the X offset. The printer definition file, [Int01], is the final version of my PrntDefn file.

Typically, ink jet printers will print right up to the top of the paper (i.e. a Y offset of 0 mm) but they will not print on the bottom 10 mm of the paper. Contrast this with a laser printer which typically loses only 6 mm at the bottom of the page but needs 10 mm or more (as the Y offset) at the top. Different inkjet printers will need slightly different X offsets. A slight error in the X offsets is not as serious as an error in the Y offsets since even small errors in the latter will lead to either unwanted form feeds or printing taking place well down the paper.

If you have problems in setting up a printer which uses HP codes then you might try: Bruce D Brown, 34 Harlington Road East, Feltham, Middlesex, TW13 5BN. He has volunteered to help (but with HP printers only and not Epson types).

To take advantage of Bruce's offer of help, please create a simple document and print it to a file (see how to do this below). Send the Printout format file to him (on disc) together with a disc copy of your !Printers directory. Please send him a sticky label

with your name and address on it together with return postage. If you don't send return postage then you'll get no reply! Fair enough?

Dot matrix printers

If you have a dot matrix printer, you should use either [Top_Left] (if your printer uses Epson codes) or, if that fails, then my drawfile which is called [Top_Left2]. Both these are on the monthly disc.

Using [Top_Left2]

If you have serious difficulties using [Pointer] or [Top_Left] because your printer won't accept the HP or Epson codes (respectively), then try again using [Top_Left2] with a printer definition which has both Paper X and Paper Y offsets of 0.00 mm.

Load the file [Top_Left2] and print it out from Draw or DrawPlus using a PrntDefn which has both X and Y offsets of 0.00 mm and a paper size (such as the A4 paper size) which has zero left, right bottom and top margins. Measure the actual printed position of the graphic and use that to determine your X and Y offsets.

Modify a copy of your chosen PrntDefn file so that it uses these offsets.

Creating your own paper size

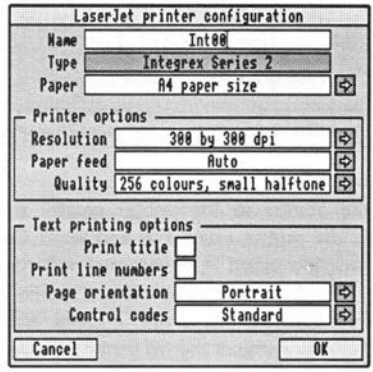
When you have chosen your offsets, create a paper size which uses the exact same size left and top margins as the X and Y offsets of the printer Definition! Usually, you will find that the right margin should be set equal to the left margin but you may have to experiment with the bottom margin. As a guide to values for the bottom margin, laser printers will need about 6 mm and inkjet printers will need 10 mm to 25 mm. Printing out the file [Grid] from Draw or DrawPlus will probably help you to decide how much of the bottom of the grid is lost.

If you find that, even with your X and Y offsets correct, you still get unwanted form feeds, you may have to slightly alter the length of your page. An A4 page should be exactly 297 mm long but, because of slight variations in the way the rollers in a printer measure the page length, you may find that you have to reduce the length of your A4 page by 0.5 mm or so.

Removing unwanted printer definitions

Place the pointer in the printer control window and click on one of the (many) printer definitions you no longer want. It will be highlighted. Click <menu> and select the Remove option. The selected printer will be removed from both the printer control window and from the iconbar.

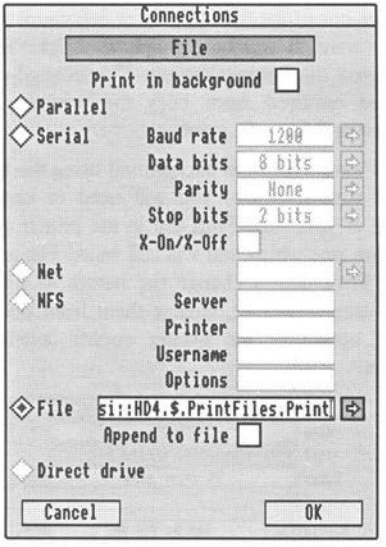
If you want to print in background using the technique I suggest below, you will need to keep two copies of your final PrntDefn in the printer control window, one which you will call called File and the other Print. Don't change the names to File and Print using PrintEdit, change them from the Configure option of the printer control window as follows.



Changing the name of the printer

You can change the name, the default paper size, the printing resolution, the quality of print (e.g. number of colours or shades of grey) and a few other attributes of any printer which appears in the printer control window. Place the pointer in the printer control window over the printer you want to modify, click <menu> and select Configure. Change the name of the first printer to File and click on the OK box. The name of the printer will change in both the printer control window and on the iconbar. Change the name of the second to Print in the same way.

I suggest that you change the default paper size for both your printers to your preferred paper size (i.e. the paper size with left and top paper margins exactly equal to the X and Y offsets), that you use "Grey, large halftone" as your default quality and 300 by 300 dpi as your resolution. I prefer the Paper feed to be Auto even if I'm going to use manual feed.



Printing to file

Place the pointer in the printer control window, highlight the printer called File and select Connection. A window called "Connections" will open. On the left, near the bottom, you will see a radio button called File. Click on this to turn it green. Now type in the full path name of the (as yet non-existent) file to which you are going to print. In my case, I have created a directory on my hard disc called PrintFiles to hold the Printout file. My full pathname is [scsi::HD4.$.Printfiles.Print]. Click on the OK box. Do not be tempted to click on the "Print in background" radio button!

Now you have two printer icons on the iconbar. Click on the printer icon called File so that it becomes the default leaving the printer called Print greyed out.

When you are satisfied that you have the two printers you want on the iconbar and that they are both configured with suitable Names, Paper, Resolution and Quality then click <menu> on the printer icon (on the iconbar) and select Save choices. If you don't do this, you will lose all the settings you have created.

Using the 'Printing to file' facility

Load a suitable document and press <print> to initiate printing and you will print to the named file (overwriting any earlier version). During the time you are printing to file, you will find that you have relinquished control of your machine! So "Where is the advantage?" you might well ask. The answer is that printing to a file is much quicker than printing to the printer. You have lost control for a shorter period of time.

Tests I have carried out with my setup indicate that printing to file is about three times faster than printing to the printer. By the way, often you can speed up this process of printing to file by making the font cache larger; I recommend 512Kb.

You will regain control of the machine when printing to file is complete. In order to print out your Printout file, all you need to do is to drag the file called [Print] (from the directory on your hard disc – or perhaps from a copy you keep on the pinboard) onto the Print printer icon. There is no need to click on the Print printer icon before you do this. Printing from disc to printer is slower than printing to file but still faster than direct printing. The advantage is that printing from file to printer will take place in background so that you may continue to use the keyboard, mouse, etc whilst printing is taking place.

Other paper sizes

You may want to use a paper size of A3, A5 or DL (a common size for envelopes). I suggest that you do not keep juggling the paper sizes of your one File printer but that you drag in more copies of your printer definition file (for me this is the file called [Int01] which is in PrntDfn format) and then, using Printer control – Configure, you change the Paper choice for that printer and change the name (from the configuration menu) such as DL File or A5 File. An interesting point is that you don't have to have a separate Print printer for each size of paper; you can drag any Printout file onto the Print icon and it will print.

In conclusion

Having set up your printing system, the next step is to choose your 'global' and 'local options' (i.e. choices or preferences and then templates or master pages). Those topics will have to wait for another day.

In this article, I have referred to a number of test files. These are included on the Archive monthly

disc. I recommend that you buy it from NCS together with Printers v1.22 (Utilities Disc N°7) and the latest version of !PrintEdit (on Utilities Disc N°8). However, if you do not wish to buy that monthly disc and need these printer test files then send me a disc formatted to 800Kb, sticky label and return postage. Also, please let me know whether you want the [ReadMe] text file in PipeDream, Fireworkz or Style format.

Please write to me at the Abacus Training address which you'll find at the back of this magazine and not via the Archive office. A

Acorn Risc PC – The Best of Both Worlds?

Paul Beverley

(This is a copy of an article sent for publication to the Church Computer User's Group. It is published here to give you an idea of the sort of article we all could be inserting in non-Acorn aware publications. See Comment Column, page 15. Ed.)

First of all, let me declare an interest. I'm an Acorn dealer writing about Acorn computers. Most people think of Acorn as, "non-standard and therefore not to be considered" but I believe they may be missing out if they do.

RISC – the latest technology?

Thanks to Apple's extensive advertising, you may already have heard of "RISC technology". However, you shouldn't believe Apple's advertisements – theirs were NOT the first RISC-based desktop computers. The Acorn Archimedes, a 32-bit RISC computer, was available in 1987! (The ASA have upheld our complaint.)

Why RISC?

If you sit in front of an Acorn Risc PC and compare it with Windows or Mac systems, you will soon see the difference – the screen display is lightning fast. Macs and PCs tend to be good at doing calculations but RISC chips win hands down when it comes to simple jobs like drawing dots on the screen and that, from the user's viewpoint, is where the productivity lies – you don't have to sit waiting for the screen to re-display.

RISC technology has enabled Acorn to maintain a lead in a number of areas...

The best bible software?

If you want the best bible software on any platform, have a look at ExpLAN's Acorn Multimedia Bible. You can have a number of different translations on the screen all tracking together, verse by verse. Versions in production include NIV, REB, NSRV (with full study notes), Russian (in cyrillic font), Authorised, two German versions, Greek and Hebrew (right-to-left reading with full breathing marks). Text is fully formatted on screen as in the printed version, e.g. with large verse numbers at paragraph starts and superscript verse numbers elsewhere. Footnotes appear automatically in a window and cross references can be called up automatically, even from study notes, at the click of a mouse button. It also includes maps, illustrations and photographs which appear as soon as you click on the verse to which they refer. The formatted text, notes, maps, etc can be exported into a WP/DTP package.

The best music printing software?

The Royal Academy of Music recently ditched its PC-compatibles and bought a set of Acorn Risc PCs. Why? Because the best music printing software, Sibelius, only runs on Acorns. Sibelius allows the least computer-literate musicians to produce top-quality printed scores, including, at the touch of a mouse button, parts for individual instruments, transposed accordingly. And all this is printed at top DTP quality – or you can take PostScript output, direct from Sibelius, straight to the typesetters. (Oxford University Press publish some of their music using Sibelius.)

The best for your church magazine?

Was it a coincidence that the joint winners of the Church Magazine Competition both used Acorn computers? I don't think so. I believe that the software on Acorn computers is generally more intuitive and user-friendly than Windows or Mac software.

"What a shame they aren't PC-compatible!"

Who said they weren't PC compatible? For £99, you can buy a 486 processor card and plug it into your Risc PC alongside your RISC processor. Then you can run both DOS/Windows software and Acorn software on the same computer at the same time, transferring data back and forth between the two worlds. (Now that MacOS is to be licensed, watch out for a Risc PC Mac processor!)

"Aren't Acorn computers a bit expensive?"

I have to admit that they aren't cheap, but then you always have to pay for the best. In any case, it depends what specification of computer you compare. For example, if you want a multimedia computer capable of modes like 1024×768 in 32,000 colours and 800×600 in 16 million colours, you can start with the cheapest Risc PC (£1,249 +VAT) and just add extra memory and a CD-ROM. There's no need to add any sound cards, video controllers or graphics accelerators – this hardware all comes as standard on all Risc PCs.

"But Acorn isn't industry standard."

Have you thought out why you want to be 'standard'? If it's for data exchange, that is one of Acorn's strengths. You can put DOS/PC, Atari and Mac discs into the Acorn's disc drive and access the data just as you would with an Acorn disc.

Even in the PC world, is there such a thing as a 'standard'? How many times have you been told... "I'm sorry, Sir, but this software won't run on your computer because you haven't got an XYZ sound/ graphics card / enough memory / a big enough hard drive, etc."

"They are very low on memory."

True, the basic Risc PC only has 2M RAM and a 210M drive but that's because they don't need as much RAM. Impression Publisher (equivalent to Quark/Pagemaker) will run on a 2M Acorn computer and takes up less than 4M of hard disc space (and you can buy it for about £135 +VAT). But if you do want lots of memory, even the bottom-end Risc PC can be upgraded to 128M of RAM.

Don't take my word for it

You think I'm exaggerating – well, maybe I am a little – but if you don't believe me, go along to the CRE in Esher in May and see ExpLAN Ltd (Acorn dealers and producers of the Holy Bible). I gain nothing if you buy from them so let them show you Acorn computers in action and you will see that they now give you the best of both worlds. A

ABC of Art

Christopher Jarman

This is a review of discs F, G and H in a series of, presumably, 26 discs which are being produced at the rate of one every two months by Andy Jeffery in Brean, Somerset.

Clipart has come a long way on the Acorn in the last two years. While there will always be an important place for simple flat-colour drawfiles of school-related subjects using very little memory, there is also a growing market for more sophisticated illustrations of all kinds for DTP as well as for games backgrounds and multimedia applications. ABC Art discs quite definitely fall into this second category.

Each disc contains between ten and thirteen Artworks files (although it is possible to order alternative drawfile discs of the same subjects). This means around 1.5Mb of archived drawings per disc. Subjects are grouped in alphabetical order, but are really the fairly random illustrations of the artist's particular interests. These tend to be cars, aeroplanes, dogs and horses, flowers and birds with quite a lot of creatively designed decorated capital letters. Each disc comes with a black & white printout of its contents which is very useful and which would bind up as an A5 reference book if collected together. Andy, will respond to requests for particular drawings to be included on future discs, so there is a built-in flexibility in content.

The illustrations themselves are, in general, of excellent quality. The artist's long experience as an art teacher gives a really confident and professional touch to the pictures. While the aeroplanes and cars are superb, as we have come to expect from seeing other artworks clips, this collection also excels in

producing more organic drawings of animals and plants. What is particularly adroit is the way in which the palettes have been cleverly limited to give both a fine aesthetic and coherent design to each picture, as well as cutting down the memory use. Such detail as different colours for the window panes in houses, and variation of brick colours in walls, have been most competently carried out. Putting these very well produced clips into your own copy of Artworks and analysing them would make for a valuable tutorial in itself. I learnt a great deal from doing this, and my own use of the program will improve considerably as a result.

The detail as well as the tone values, particularly in the difficult pictures of horses and dogs etc, are remarkably good. These put up the quality of obtainable clipart by several notches. In one or two clips I think it might have been better to convert the fonts to path using the "make shapes" facility, as not everyone has the fonts which were used, but this is not a serious problem as Artworks, like Impression will put up substitutes. One of my particular favourites is the beautiful drawing of the Fairey Swordfish or "Stringbag" as we called it in the Fleet Air Arm. It is, however, flying pilotless and observerless, but then the beauty of Artworks is that you can draw your own choice of aircrew and just drop them into the cockpits!

If it takes the artist two months to do twelve pictures (and I can well believe it), then their value in terms of worktime is extremely high. At, say, a modest £15 per hour for design, I would guess that each picture takes about three to four hours. Therefore we are talking about possibly £720 worth of clipart on a floppy disc selling for £6! Someone somewhere is subsidising these Acorn Clips!

Highly recommended and tremendous value for money. I look forward intensely to the next 18 discs. A

TableMate 2 is the latest version of Dalriada's TableMate tabling utility. TableMate 1.1 has been bundled with Impression Style and Publisher.

TableMate 2 brings:

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- Draw & Equasor files inside cells
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Acorn User, December '94: "... upgrade at once to ... 2"

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TableMate 2

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- Flowcharts and Process diagrams
- Annotated diagrams
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- Spider diagrams ... and more!

DiagramIt provides you with:

- Intelligent connecting tools - lines automatically remade when needed
- OLE compatible - like TableMate!
- "Tiled" printouts of large charts
- Full colour handling
- Shadow, rotation and other effects
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Price: £50, incl. p&p (No Vat!)
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Special Archive Reader's Price: TableMate 2 upg + DiagramIt £60 - until March 7th 1995.

Pocket Book Column

Audrey Laski

Pocket Book research

Acorn's quarterly magazine, 'Arc', carries a short report from Dr. Pat Fung of the Open University on a research project undertaken to study aspects of the use of pocket computers. Pupils were given Pocket Books specifically for use in the development of their Records of Achievement, and views and reactions were tested through questionnaires for pupils, teachers and parents before and after the experience. Pupils were also observed during their use.

One of the most interesting observations was how much peer learning interaction the use of the Pocket Books generated, pupils drawing on each others' experience. I remember that this was one of the great educational claims of Logo, and see it as a powerful response to those who fear that interest in computers will make children asocial.

I was a little surprised that fewer than 65% said they would have liked to keep their Pocket Books longer, since almost 90% said they were useful, and even more claimed to have enjoyed using them, and I think I shall be contacting Dr. Fung (e-mail: p.fung @open.ac.uk.) to see the full report, to get more detail than the two-page feature in Arc provided.

Using ChangeFSI

Martyn Wilson, of Hampshire Microtechnology Centre, had problems when he tried to use ChangeFSI to transfer, to a Risc PC, a PIC file image of which a graph a class of pupils had created in Abacus. ChangeFSI claimed not to recognise the filetype. He observed that the transfer software upgrade he had had from Acorn Direct was to version about 0.95, and that the version on the Risc PC was about 0.98, but neither worked. Acorn supplied him with version 1.01, and this does convert Pocket Book files to sprites, but is not entirely compatible with the Risc PC, requiring the datafile CSFIjpeg to be changed to CFSI-jpeg before use can be made of Slideshow.

In general, he feels that "in the longer term Acorn should look quite closely at the whole business of linking the Pocket Book to the Archimedes" and introduce changes, including "a more elegant solution to the business of copying screenshots from one machine to the other" and a means of showing a Pocket Book screen on an Archimedes desktop. John (of the other side of the bed) suggests that the former of these wishes could probably be easily supplied through another window in the A-Link software to do Pic to Sprite, and vice-versa possibly. The latter would need much more fundamental rethinking. What is clear is that, since Martyn is someone working with schools, developing and demonstrating curriculum uses for Acorn machines through his county, his concerns should be taken with the utmost seriousness by Acorn, if the Pocket Book is to fulfil its potential as an educational tool.

Software temptations

Also seen in Arc is news of what sounds like an extraordinarily useful piece of software for wide-ranging travellers: the Berlitz Phrase Book produced by Psion. This apparently has phrases in 60 topic areas in 12 languages besides English, including Japanese and Hungarian. Not surprisingly, it isn't cheap but, if it delivers all it claims, the price of £59.95 (inc VAT) seems reasonable for anyone needing to communicate in a wider world than GCSE French will cover. One thing that is not clear from the statement in Arc is whether this software is only available for Pocket Book 2; those of us still using our old machines need to know such things.

For those in the vanguard

Mike Lane, of Stockbridge, Hants, points out that my dream of dictating my memoirs on the recorder of Psion 3A/Pocket Book 2 would have a short life, since the default maximum recording time is only two seconds, producing a 16Kb file, so that a ludicrously large amount of storage would be required for even five minutes. He suggests frequent stops at service stations to upload the memoirs via a portable modem to the home computer, or "a serial link to a laptop with a few gigabytes of hard disc storage" as the only solutions – I'll pass.

Database Comparison

Simon Coulthurst

My reason for doing this review is partly self interest. With the release of the Risc PC, I have returned to the Acorn fold after an absence of some years. My Risc PC is a business machine first and a hobby second. As such, it has to able to carry out the three main computer tasks adequately. I found it relatively easy to decide on the correct spreadsheet and the correct wordprocessor/desktop publisher for my needs. However, the choice was not so easy when it came to selecting a package to manage my data.

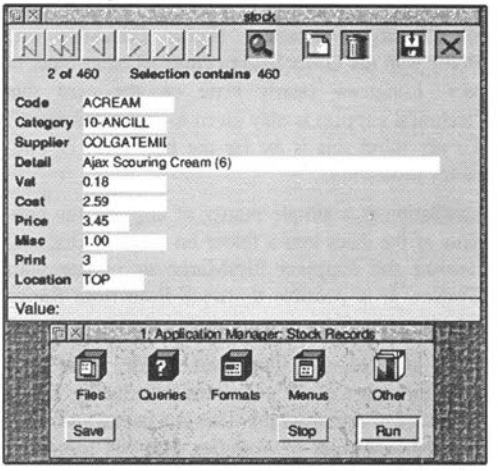
I have always found databases to be amongst the most idiosyncratic of products. On the face of it, you look down the products specification sheet and think 'this product is ideal – it has every feature I could possibly want'. But when you come to use it, you find you can't get it to do the one thing – the most important thing – you want it to do. For that reason, it was important for me to get some hands-on experience with some of the alternatives available.

Just to jump ahead a little. At the end of the review period, I will decide which of these packages will be remaining on my hard disc. I have approached this review from the point of view of a user looking for a database program to use on a daily basis for all their data management needs. Ideally, one program should be sufficient for all my purposes.

I will be using the program on a single machine for personal/business use and not to develop stand-alone applications for the use of others. To this end, I designed two different databases on each package to see how easy or otherwise they were to use. A credit application form was my first data storage requirement, followed by a slightly more complex stock recording system. The first of these consisted of a single table only but the second (if possible in the database package in use) was to have one table for the stock items and another linked table for the suppliers' details. I have assumed that you, the reader, are already familiar with the concept of a database and the terms used.

The main contenders

When looking at the databases available for RISC OS in Archive's price list, it soon became obvious that I was going to have to prune the choices somewhat. There is quite a good selection ranging from the cheaper end Arcscan III at £14 up to the more expensive packages like S-Base V2 Developer Plus at £410. I eventually decided on Impact Pro from Circle Software, DataPower from Iota, S-Base2 Personal from Longman Logotron, Squirrel 2 from Digital Services and Masterfile 3 from Beebug. No particular reason for choosing these packages over any others, apart from my own desire to look at them.



S-Base2 (Personal Edition)

(Longman Logotron – £49 +VAT)

This arrived in a white box with a large colourful S2 logo and the proud claim *"The Integrated Relational Database Solution for RISC OS"* on the front. On the back is a brief summary of the program including mention of SAM, the S-Base Application Manager, that allows the creation of a database application automatically – *"absolutely no programming is required"*. Quite a change from version one, where programming was the order of the day to achieve anything. Not that there is anything wrong with that. Longman have never pretended that S-Base was anything other than a database language that could

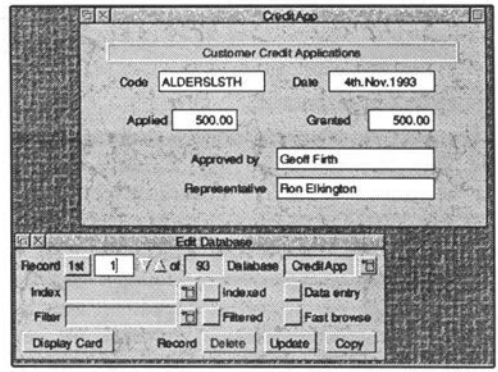
be used to create whatever data handling applications you had in mind. The down side to a programming-based approach is that it often takes a considerable time and learning curve before anything tangible can be achieved. Longman obviously hope that the provision of SAM will help alleviate this.

Inside the box there is a hefty, and good quality, 382-page Tutorial and Reference Guide, a much lighter 60-page Quickstart Guide and an envelope containing three discs and a registration card. Being a logical sort of chap, the first thing I did was complete the registration card and put it to one side ready for posting. It is fairly obvious from the registration card where Longman expects most of its sales of S-Base Personal to go, it has selection boxes for Primary, Secondary, Higher Education and Home with the Other field to cover all other types of user. Longman clearly state on the card that "technical support is only given to registered users". To my mind this is by far the best form of anti-piracy protection.

Installation is a simple matter of copying the contents of the discs into a folder on your desktop and running the supplied !SysMerge to update your !System. It is possible to run S-Base from floppy discs but a hard disc is recommended.

Once installed, the Quickstart Guide holds your hand through a series of lessons introducing you to the basics of the program. This is a useful and fairly comprehensive set of exercises that will leave you able to start designing, and using, your own databases. To take advantage of the undoubted power of the program means diving into the main User Guide. This is a far more daunting task, especially for the occasional user.

Whilst great things can, undoubtedly, be achieved with S2, it is a more complex package than any of the others being looked at here. For those who only need to store a list of addresses or manage a club database, it is really overkill. However, at its current price it offers superb value for money for anyone needing the sophistication it offers, but you have to be prepared to spend the time learning how to make use of it.



Impact Pro

(Circle Software – £65 + VAT)

This package has a more 'homespun' feel about it. It comes in an A5-size ring-bound folder containing the manual and the single program disc. In this instance, there was no need to complete a registration card as I had ordered the product direct from Circle and it was already set up with my details – a nice touch.

Impact Pro is a relational database with what was one of the main attractions to me, support for printing reports with Impression using the Impulse module. This module is designed and supplied by Computer Concepts.

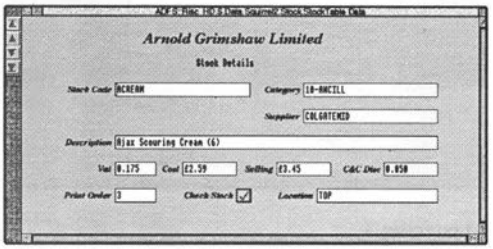
Installation instructions are given on an, easy-to-lose, separate piece of A5 paper. Having inserted the program disc and double-clicked on the !Install program, this checks to see if there is a valid security code for the program. You can get the full version – minus the ability to save any new data – and give it a try. Then, if you like it, all that is required is a phone call to Circle Software with your credit card. They will issue you with a valid security code and you have a fully working system. A form of shareware.

There is no tutorial with Impact Pro. Luckily, the manual is good (it gives examples throughout) and the program is relatively simple to use and understand. This meant it was not long before I had my two example databases up and running.

The databases are saved within ImpactPro and not by dragging to the desktop in the normal RISC OS fashion. This has the advantage that all databases are

easily accessible from within the program and do not clutter up your filling system with extra icons. The disadvantage is that only one database can be loaded and worked on at a time.

The program is reasonable value for money and easy to get up and running. On the downside, it doesn't follow the normal RISC OS filing methods or allow access to more than one database at a time. If you can live with one or two idiosyncrasies, you will not be disappointed.



Squirrel 2

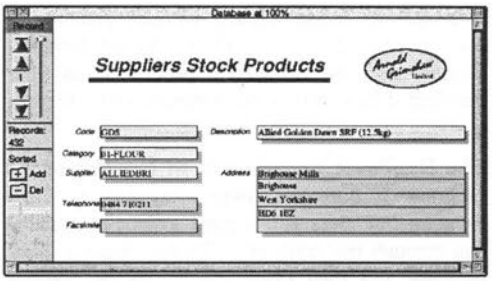
(Digital Services – £139 +VAT)

Again, this comes in a ring bound manual, but this time of a more robust and professional appearance with an outer sleeve and two discs. One containing the program and the other some sample data. Again, Squirrel is a program that requires registration, by phone, with the supplier before an unlock key will allow installation and use of the product.

The disadvantage with the method used by Digital Services – compared to Impact Pro and Circle Software's method – is that once installed on one computer, the only method of moving it to another is by the use of a separate SqlMove disc. This must be obtained from Digital Services and can only be used the once. If you wish to sell your copy of Squirrel 2 to another person, beware. I was informed, by Digital Services, you are not allowed to do so, as your purchase of the program only allows you the use of the package – you do not own it! After further talks, they eventually said okay it was my program, and I could sell it, however I would need to purchase SqlMove from them at a cost of £20.00 and they would need full details of the person purchasing the package before they could agree to it!

Squirrel has built up a loyal user base over its life as it is simple to use and pleasant to look at. It is possible to build some quite sophisticated-looking applications and reports. However, for my purposes, there was one major disadvantage with this package. There are no proper calculated fields. In my stock database, I wanted a price field and a VAT field. I then wanted to set up a third field to show the VAT inclusive price. This should have been easy enough to set up, with a formula along the lines of *(Total = Price * VAT)*. However, it would only calculate the field once, the first time it was used. If I then changed either the VAT rate or, as is quite likely, the price of the item, the new (VAT inclusive) field would not update to reflect the new value. After talking with Digital Services, it would appear there is no way of setting up calculated fields that update in real time.

As mentioned, this is a powerful, good looking, package with, for me, two major drawbacks. If you are not bothered about 'proper' calculated fields or the method of copy protection used, then Squirrel 2 offers some nice features, particularly its reporting facilities.



DataPower

(Iota Software Ltd – £149 +VAT)

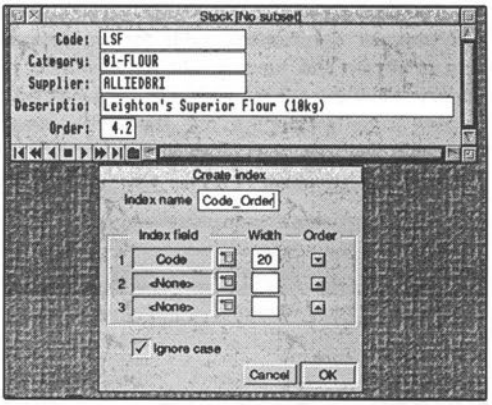
The program arrived in a very smart, dark blue box that proved to be the ring binder that holds the main manual. This is very nice looking, but it proved to be rather cumbersome to use, taking up a lot of desk space. It would have been better if the manual were separate from the storage box. In addition to the manual there was a fairly substantial user guide supplement, a short installation guide, two function keystrips – one for the A4 portable (it's nice to see a company remembering the roving Acorn user), a

reference card and three discs (program, examples and work discs). Installation is a case of initialising the program disc, running !DPInstall and following the on-screen instructions then phoning Iota Software for a support number. Without this number you are unable to install DataPower on your hard disc, although you are able to run the program from the floppy. As a single user, I have one 'credit' supplied on the program disc. By copying DataPower to the hard disc, I have moved the credit to the hard disc where I may now run the program. It will no longer run on the floppy unless I copy the credit back. This is fine until such time as you suffer a catastrophic failure on your hard disc. Then you will have to appeal to Iota Software for their help. While this is still a current, supported package, there's no problem but what happens if you are still using the program years from now and, heaven forbid, Iota are no longer around! My favourite hobby horse: whilst companies in the Acorn world insist on using these draconian protection methods, they will never appeal to the general business user. We are too used to being able to back up, freely, the software we rely upon to run our businesses. As I have said before, the best method of copy protection is a half-way house solution whereby you, as the user, must register the software to get technical support and, the installation process stores your personal details within the program code, thereby enabling easy tracing of any illegal copies.

The DataPower tutorial gives an overview of the program. It does not cover every aspect of the program but gives you a good insight by walking you through the setup of a 'Student Record Card' database and then using this to try out various facilities of the program.

Whilst DataPower is not a relational database, it does offer a 'lookup' facility that can get information from a CSV text file. This facility is actually more flexible than it may at first sound. As the CSV file can be easily created – and kept up-to-date – by another database. I used this facility for my stock database and it worked fine. If you need to update the fields easily in the attached database on a regular basis, this approach is obviously not suitable.

DataPower, like Squirrel 2, is a good-looking package that allows the creation of nicely-presented forms and report. If you can manage without a full relational facility and don't mind the copy protection, this package will satisfy all needs.



Masterfile 3

(Beebug – £49 +VAT)

This arrived packaged in an A5-sized box which contained the 100-page ring-bound manual, a laminated reference sheet, a short release note for version 1.35 and two discs. The first disc contains the program itself, and the second contains some example databases. Installation is a simple matter of copying the contents of the discs into a suitable directory on your hard disc. No copy protection – the authors trust their customers – a refreshing attitude that deserves respect.

Masterfile 3 is a flat file database as opposed to a relational one. That is, it will work on one data table (a single set of data like a list of names and addresses) at a time.

Double-clicking the Masterfile icon installs it onto the iconbar in the usual manner. A single click on the icon opens an untitled window ready for you to start defining a new database. Double-clicking a database icon or dragging one to the icon bar will open a window on the database. Several databases may be open at once, each in its own window. To create a new database means telling Masterfile 3 about the fields you require. You do this by filling in a simple 'descriptor file' giving each field the minimum of a *name*, *type* and *width*. Optionally, you may include a *range/calculation* and *option* descrip-

tion. *Range* allows you to restrict the entry e.g. `>10 AND <100` would restrict a number to between 11 and 99. The *options* entry allows the specification of several miscellaneous characteristics, such as forcing all text to upper case, prefixing numbers with a pound sign or capitalising the first letter of each word. These and other options may be combined.

Once a database has been specified, a default card layout will be created for you. Use of the card designer allows you to design your own layouts.

This package is simple but effective to use with many facilities available but has the obvious drawback that it is not relational. Whilst its reporting facilities are not as comprehensive as some of the more powerful packages, they are adequate for occasional use. A good little program.

	Impact Pro	*Data Power*	*S-Base V2 Personal*	*Squirrel 2*	*Masterfile 3*
Field types available					
Text	✔	✔	✔	✔	✔
Integer	✔	✔	✔	✔	✔
Decimal	✔	✔	✔	✔	✔
Date	✔	✔	✔	✔	✔
Time		✔	✔		✔
Calculated	✔	✔	✔		✔
Picture	✔[1]	✔[2]	✔[2]	✔[2]	✔[2]
File	✔	✔	✔	✔	
Boolean	✔	✔	✔	✔	
Relational capabilities					
Full	✔		✔		
Look up		✔		[3]	
Flat file				✔	✔
Import					
Impact Pro	✔				
Data Power		✔			
S-Base V2			✔		
Squirrel 2				✔	
Masterfile 3			✔		✔
DBase			✔		
CSV	✔	✔	✔	✔	✔
TSV	✔	✔		✔	✔
Junior		✔			
Desktop		✔			
DataKing		✔			
Grass		✔			
DataCard		✔			
Quest		✔			
DataPick		✔			
Key		✔			
OurFacts		✔			
ViewStore		✔			
Export					
CSV	✔	✔	✔	✔	✔
TSV		✔			✔

Notes

[1] Sprite.

[2] Draw file or sprite.

[3] Relational queries can be used to report on more than one table.

The decision

Well, it is time to decide. As stated when I began this review, my aim was to find just one package that would fulfil all my needs.

S-Base V2 is very powerful and offers remarkable value for money at only £49. However, as my wife would confirm, I am a simple soul (not to mention a lazy one) and found that, for my purposes, the power on offer was not really necessary. Whilst SAM (S-Base Application Manager) certainly helps, this is still a complex package that needs some dedication to get to grips with it.

Impact Pro is a unique package with a refreshingly different approach to the user interface. This may suit you or not. I would suggest taking up Circle Software's offer of an evaluation copy before committing yourself. I found that the inability to have more than one data table on screen at one time was the limiting factor for me. Also, I found the Impulse module harder to get to grips with than expected.

Squirrel 2 is undoubtedly a powerful and good-looking application. The draconian copy protection and lack of a proper calculated field stops me from choosing this program.

Masterfile 3 from Beebug. Well I am actually going to keep two databases on my computer. Yes, I know, I said I was going to choose just one! But this package is just so good for certain applications. My telephone database is perfect on this program. It is quick, simple and doesn't use to much memory.

DataPower. My final choice (ignore the previous paragraph) is DataPower. Whilst I dislike the copy protection method used (at least it is not as bad as Squirrel's), and although it is not a relational database, I found the lookup facility was adequate for my needs. The design process, reporting facilities and general look and feel of the program were such that I found myself turning more and more to this package as the review period went by. You will not be disappointed if you follow my example and purchase this program for your computer.

I may now be contacted by email as simon@agltd.demon.co.uk. A

Puzzle Corner

Colin Singleton

Just one reader has attempted, and perhaps misunderstood, my unofficial puzzle – what is the smallest number of entries you can make in the National Lottery and be *certain* of winning £10? Remember, it is only necessary that one of the lines in your entry has three numbers in common with the six numbers drawn, for any combination of numbers which might be drawn. This does not require millions of entries, it should be possible with less than 100, but I haven't managed to find a suitable list. Whatever the answer, it will cost much more than £10!

Here are this month's two puzzles ...

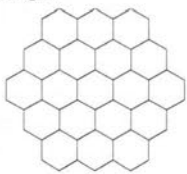
(9) Egyptian Fractions

The ancient Egyptians used fractions in their mathematical calculations, but their notation did not allow them to write fractions such as $^{11}/_{199}$, and they did not understand such fractions. They could only use unit numerators, so the result of dividing 11 by 199 might be written, used and understood as $^{1}/_{20} + {}^{1}/_{199} + {}^{1}/_{3980}$. There is a software package (for PCs) which transforms proper fractions into 'Egyptian Fractions' – the sum of a series of reciprocals. For the fraction $^{50}/_{89}$ it gives

$$^{50}/_{89} = {}^{1}/_{2} + {}^{1}/_{17} + {}^{1}/_{337} + {}^{1}/_{145681} + {}^{1}/_{29711989585} + {}^{1}/_{1471337208468868797457} + {}^{1}/_{6494499543074890436870241790813851000203090}$$

Can you find something more manageable, with fewer terms and less horrendous denominators? Specifically, what is the smallest number of *different* reciprocals which sum to $^{50}/_{89}$?

(10) Magic Hexagon



Can you rearrange the numbers 1 to 19 in the cells of the hexagon in such a way that all fifteen rows (five rows in each of three different directions) have the same total?

... and last month's two solutions ...

(7) Friday the Thirteenth

The answers are September & December 1991 & March 1992 and January, April & July 2012. The puzzle can be tackled using Sunday Letters (the letters A–G) for sequences of consecutive months. For a non-Leap Year the sequence (starting in August of the previous year) is *Aug-A Sep-D Oct-F Nov-B Dec-D* Jan-G Feb-C Mar-C Apr-F May-A Jun-D Jul-F Aug-B Sep-E Oct-G Nov-C Dec-E *Jan-A Feb-D*. For a Leap Year the sequence is *Aug-A Sep-D Oct-F Nov-B Dec-D* Jan-G Feb-C Mar-D Apr-G May-B Jun-E Jul-G Aug-C Sep-F Oct-A Nov-D Dec-F *Jan-B Feb-E*.

The letters A–G are used cyclically, and step forward three letters following a 31-day month (four weeks plus three days), two letters following a 30-day month, etc. These sequences tell us that if August 13th is a Friday (in a year preceding a non-Leap Year) then the following May 13th and the next January 13th will also be Fridays, because each of those months has the letter A. If September 13th is a Friday (in a year preceding a Leap Year) then the following December 13th and the next June 13th will also be Fridays, because each of those months has the letter D.

We now look for occurrences of the same letter three times in seven consecutive months. There are two such occurrences, both involving Leap Years. The months are September-December-March and January-April-July. We can now solve the problem by calculating the days of the week of March 13th and April 13th in recent and near-future years. These sequences advance one day per year, except in a Leap Year, when they advance two days.

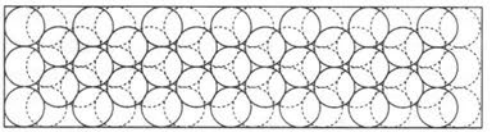
March 13 1992:Fri 93:Sat 94:Sun 95:Mon 96:Wed 97:Thu 98:Fri 99:Sat 2000:Sat 01:Mon 02:Tue 03:Wed 04:Thu 05:Sat 06:Sun 07Mon 08:Tue 09:Thu 10:Fri 11:Sun 12:Tue.

April 13 1992:Mon 93:Tue 94:Wed 95:Thu 96:Sat 97:Sun 98:Mon 99:Tue 2000:Thu 01:Fri 02:Sat 03:Sun 04:Tue 05:Wed 06:Thu 07:Fri 08:Sun 09:Mon 10:Tue 11:Wed 12:Fri.

Since we are looking for Friday 13th in March or April of a Leap Year, the most recent occurrence was March 1992, and the next will be April 2012. Hence the trios of months are September & December 1991 & March 1992 and January April & July 2012.

The puzzle is much easier to solve if you have a printed Perpetual Calendar!

(8) Marbles



There are several different forms of regular packing, and the 'best' are not symmetrical with respect to the three axes. Hence the number of spheres in the box depends, not only on the packing technique, but also on which face you chose as the 'base' of the box. The highest number using a regular packing appears to be 594.

Take a 3×12 face as base and arrange 33 marbles in a triangular formation as shown by the solid circles. For the next layer, arrange another 33 marbles nestling in the 'triangular' niches in the first layer, as shown by the dotted circles. The total length of the pair of layers is $12\times\sqrt{3}/2+1/\sqrt{3}+1\approx11{\cdot}97$. Layers are arranged alternately in this manner. Within the 15-unit height there is room for 18 layers of 33, total 594. The actual height is $17\times\sqrt{(2/3)}+1\approx14{\cdot}88$.

I believe this to be the optimum solution using regular packing, but would be interested to hear of any better solution using regular or irregular packing.

... and congratulations to the previous month's two winners, drawn from my hat ...

(5) Cheat Winner: John Greening of Edinburgh.

(6) The Hole Winner: John G Banks of Rickmansworth.

Commiserations to the reader who submitted four pages of calculus for *The Hole*, but got the wrong answer because he confused *diameter* with *radius*! My sympathies are also with the entrant who "hurt his brain" trying to remember how to integrate a function – I have the same problem! There was an alternative 'trick' solution, which one reader offered.

Comments and Solutions

Please send comments, contributions and solutions to me at 41 St Quentin Drive, Sheffield, S17 4PN. Solutions to me by **Friday 10th March, 1995**, please. My thanks again for your comments. A

Arcturus

Andrew Rawnsley

Continuing its trend of releasing original new Acorn games, rather than conversions, Oregan Software are selling the German-made Arcturus. The prototype version of the game looked distinctly Zarch-like, with rolling hills made out of distorted coloured squares. However, the finished product is far more novel, in all its textured glory.

The plot

The storyline is somewhat superfluous. All you need to know is that the aim of the game is to pilot your spinning craft across hundreds of lovingly crafted terrains, collecting all the diamonds whilst avoiding any opposition you may encounter.

Installation

The game is supplied on two discs which can be easily installed onto a hard drive, but you'll need the original disc for the copy protection.

Loading takes you directly into the title and options screen where you can adjust keys, view high scores and, most importantly, start the game.

Playing the game

Arcturus is very much level-based and, as always with such games, a password facility is provided when you start each game, so that you can jump levels. Passwords are provided every five levels and since there is little in the way of bonus power-ups, you're not at any disadvantage if you use the facility.

On each level, you are presented with a map, onto which the diamonds fall. You are then transported down onto the surface all rendered in beautiful texture-mapped 3D. Different types of floor have

different characteristics – ice has no friction and is almost impossible to keep control on, whereas sand will slow your progress. Watch out for the waves in the water!

The early levels are very simple indeed, so I strongly recommend noting down the passwords, as the game soon becomes tedious if you keep having to play these easy zones.

Interest is provided later on by different kinds of diamonds, enemy craft and all sorts of weirdly constructed landscapes.

Risc PC owners should note that the game includes a specially enhanced version for their machines.

Sound and music

The audio side of the game is excellent, with some great music on the title and high score screens. Although there is no ingame music, there are lots of sound effects, which make the game far more appealing. The effort that has gone into the construction of all parts of the game is very striking and the design team deserve much credit for this.

Conclusions

Arcturus is basically a very simple game but it has been well designed and executed, making it very addictive. I am slightly dubious as to whether it will stand the test of time, as variety is a little limited. However, this doesn't detract from its enjoyability.

My second concern is for Oregan themselves. Releasing the product at the same time as titles such as Simon the Sorcerer, Sim City 2000, Cannon Fodder, Wolfenstein 3D etc. may be bad for sales. These big name games are liable to corner the market and push Arcturus out.

Go on, prove me wrong...

Arcturus costs £24.95 from Oregan Software Developments or £24 through Archive. A

WimpGEN v2.06

Paul Hobbs

There is no doubt that writing programs that run correctly under the Wimp is not an easy skill to acquire. It is not at all difficult to crash the computer whilst developing programs which leads to frustration. Even if someone has a good idea for a program, it requires a considerable expenditure of time and effort to produce it. Silicon Vision's WimpGEN program is designed to create a user interface (windows/menus etc) and the support code to make a complete working application with the minimum of fuss.

By Silicon Vision's own admission, prior experience of programming wimp applications and a sound knowledge of Basic will be needed to make full use of the many features that WimpGEN offers. Access to the Programmer's Reference and Basic manuals would also be a considerable advantage.

System requirements

WimpGEN comes on one 800Kb floppy, which is copy protected by means of a serial number which is inserted into all code produced with it. This method of protection allows the tracking of illegal copies but is no problem for legitimate users and the software can easily be installed on a hard disc.

The minimum memory requirement is 2Mb and although a hard disc is recommended, it is possible to develop software on a floppy-only system. As WimpGEN copies data from its own application directory into the application being created, there must be enough space on the disc to accommodate both applications at the same time (WimpGEN itself is about 450Kb). It should be possible to create small applications on an 800Kb disc – of course using a RAM disc is also an option if enough spare memory is available. How much memory the generated application will need depends on its requirements, but it should be possible to load and run applications developed by WimpGEN on a 1Mb machine.

As with most software development tools, a hard disc, plenty of memory and a good multisync monitor makes things a lot easier. The software was tested on a Risc PC where it ran without problems, automatically using the 'New Look' style of icons and dialog boxes.

Documentation

A 100-page manual was supplied with the review copy but, unfortunately, it covered version 1 of the software and the differences between the versions were detailed in three readme files on the disc. The manual does contain a good overview of the WimpGEN approach to writing applications and three tutorials to help you get to grips with the software.

It also has an index although I found it difficult to find exactly what I was looking for on occasions (mostly because the information was either not there or was in the readme files!) but, to be fair, the manual is trying to cover an awful lot of ground and the package is aimed at the experienced user.

The template editor

At the heart of WimpGEN is an advanced template editor which allows the creation of windows and icons. According to Silicon Vision, this is designed to be familiar to users of Acorn's FormEd but happily it is not too similar as it does not use over-complicated menu structures like FormEd but instead makes sensible use of dialog boxes.

Window templates can be created from scratch, loaded from existing template files or even captured from other running applications. The loaded windows are displayed in a viewer window which also shows which window will be opened by <select> and <adjust> clicks on the iconbar icon. Icons or groups of icons can be loaded and saved separately so that a library can be built up and, once created, the icons can be copied, resized, moved and aligned.

A particularly helpful feature is that the text in every icon can be edited in a separate window (actually two windows, one for indirected icons and one for non-indirected icons) enabling rapid changes to be made. In addition, validation strings can be changed with a function keypress to add RISC OS 3 style borders to icons.

Selecting icons for editing (or windows for opening or deleting) is by the usual drag box method, but the drag box must totally enclose the icons which is not standard RISC OS behaviour and led to some initial confusion on my part. I asked Silicon Vision about this and they replied that 'It was our judgement that this made the selection more convenient to include and exclude only the required icons... A great deal of thought and experimentation went into this feature. After taking into account several technical considerations, this method of selecting/deselecting was found to be the most useful in this situation'. They also went on to state that a future version of WimpGEN may include an option to allow more control over this feature.

A nice touch is that once a group of icons has been selected, all the non-selected icons in the same window are greyed out (i.e. made unselectable) which clearly shows which icons are being edited.

Instead of listing every single feature, it probably is sufficient to say that just about every operation that FormEd, or any of the Public Domain equivalents, can perform on a window or icon (and some that they can't!) is possible using the WimpGEN template editor.

A couple of minor irritations are firstly that no interactive help is available and secondly that there are no short-cut keypresses for common operations (apart from some in the menu editor) which is a strange omission for an application dedicated to making life easier for developers. I strongly suspect that anybody using WimpGEN for serious work will also invest in a copy of Keystroke and will set up their own shortcuts. However, the introduction of 'Hot Keys' for the window/icon editing features and interactive help is under consideration for inclusion in a future version.

The menu editor

Although I am describing it separately, this is in fact integrated into the main editor program and a click on the WimpGEN iconbar icon results in two viewers opening, one for windows and one for menus. The operation and appearance of the menus, including any attached dialog boxes, can be fully tested within WimpGEN

Again this provides all the operations likely to be needed. Menus and menu items can be created, deleted and edited, and whole menus can be saved as files for possible reuse with other WimpGEN generated applications.

Creating an application

All of the information created by the WimpGEN editor is stored in a single file which can be reloaded

for further editing. This file is then used to create the actual Basic runimage code and the rest of the application including !Boot, !Run and !Sprite files.

New to version 2 of WimpGEN is the option to specify a library file which the generated application will load using the LIBRARY command. The intention is that code that you write is stored independently from the WimpGEN created code so that one can be edited without effecting the other. The Basic RunImage file calls routines in the user library file as the various wimp events (such as a click on an icon) occur.

Also new in this version is an option for the generated code to contain routines with sensible names based on the name of the window, such as mainw_keypressed instead of window1_keypressed which version 1 would have produced.

This all works very well in practice, although one minor reservation is that no parameters are passed from the WimpGEN generated code to routines in the user library. The code generated by WimpGEN to handle a dataload event should serve to illustrate this:

```
REM - Purpose..: Double click (DataOpen)
user message received.
REM - Reference: PRM page 3-265.
DEF PROCdouble_click
LOCAL directory_window%,icon_x%,icon_y%,
                        filetype%,filename$
directory_window% = mb%!20
icon_x%           = mb%!28
icon_y%           = mb%!32
filetype%         = mb%!40
filename$         = FNstring0(mb%+44)
PROC_testapp_dataload
ENDPROC
```

PROC_testapp_dataload is contained in the user library and will be called when a file is double clicked on – this PROC has to decide whether or not to load the file but it is not obvious without examining the code that a variable called filetype% is available to aid the decision.

This is more a question of programming style than anything else – it does work perfectly well although there seems to be no technical reason why parameters could not be passed to the user routines and, to my mind, this would be preferable as it would then be clear exactly what data is available to the routine.

Another neat touch in the WimpGEN generated code is the inclusion of PRM references (presumably the RISC OS 3 PRMs) and also references to the Basic manual where appropriate. Also, it can be seen that WimpGEN creates commented source code using sensible variable names. This is extremely important as it will probably be necessary to edit the code to perform more advanced functions that WimpGEN does not, as yet, provide.

WimpGEN generated applications may be compressed by a suitable program compactor to reduce their size, or compiled to machine code using Silicon Vision's own RiscBasic compiler for additional speed and security.

Some support is also provided for creating tool panes (windows attached to other windows) in the template editor, but strangely not in the generated code where it is left to the user to open the windows in the correct order which could be a daunting task for beginners. WimpGEN data to create a demonstration application, which shows how panes can be handled, failed to produce the expected result in that only the first window was opened automatically leaving it up to the programmer to open the other windows behind the first one.

Silicon Vision is keen for users to send in their own ideas for enhancements and I would expect that automatic handling of tool panes would be high on the wish list of many users.

The programmer is encouraged in the manual to use the general purpose routines provided by WimpGEN to help with the writing of the rest of the program, but there was no documentation supplied (other than a short note in one of the ReadMe files about some newly provided routines) to explain what is available and the parameters required by the routines. This is a major omission.

Conclusions

WimpGEN achieves its stated objective of making the creation of a user interface for RISC OS applications easier and the whole system works well and appears to be bug free. Whether it achieves as much as it could do is debatable as there are many opportunities for making programming easier (automatic

handling of panes, font and colour selectors, etc) that version 2 does not address at the moment. As it stands, to produce a complex application using WimpGEN will require a fair amount of programming input, although what is there has been thought about carefully and provides, with the minimum of effort, the building blocks that all RISC OS applications require. Indeed, it is hard to imagine how the facilities it does provide could have been better presented or made easier to use.

As the software has so many features, it really has to be tested extensively to find out if it suitable for the task in hand and, in this respect, it may be useful for potential purchasers to obtain the demonstration version first. This is available direct from Silicon Vision and costs £5 +VAT, which is refundable against full purchase.

WimpGEN is published by Silicon Vision Ltd and costs £79.95 +£3 p&p +VAT or £92 through Archive. A

Econet – Experience and Salvation

Keith Murrall

I joined Yateley Manor as Head of IT in September 1992. The Econet network was extensive, with BBC 'B' workstations in most classrooms.

The first area for modernisation was the IT room, equipped with an SJ Research fileserver and 18 BBC Bs, linked by Econet. Twenty A3020 workstations were ordered, with two A5000s for use as a fileserver and printer server. For a variety of reasons, the existing Econet cabling was retained although it was clearly not ideal.

The remainder of the site, with the SJ file server relocated, was split into a separate net which would continue with Beebs until replacement was possible. The two nets were linked by a bridge so that, as RISC OS workstations were introduced to classrooms, there was access to central storage.

Up and crawling

Installation was completed at the end of January 1993. I anticipated that applications would take some time to load, but the solution was simple. When a class came into the IT room, the children would be told what to load. While the application was loading, they would be given the necessary introduction to the lesson. By the time this was finished, the application would be loaded and ready for use. How naive!

The first problem was logging on. With classes of children as young as seven using the IT room, it could take five minutes or longer until the root directory had been opened. However simple the instructions, children – and some adults – forget, make mistakes and get confused. Once logged on, opening the required directory took yet more time. The required application was then selected and the lesson introduction begun. Almost inevitably, there were interruptions because of various error messages appearing on-screen and, just when a class were ready to get on, at least one child would announce that their station had crashed altogether. In practice, it was often 10-15 minutes before everyone was actually ready to start working.

Other speed problems arose from the use of !Scrap and !Fonts. When printing, or dragging from one application to another, the !Scrap directory is used. Take, for example, dragging a drawfile directly into a DTP package from !Draw. On a net, the drawfile is sent to !Scrap on the server, then sent back to the receiving application. Multiply this by twenty users and you have a speed problem. Speed problems also become apparent with the use of !Fonts, the time spent building a font over the net is considerable.

Initial attempts

A boot file, which opened the root and user directories automatically, helped to simplify matters, with less for the user to get wrong.

Opening directories was very slow because of application !Boot files running. The obvious solution to this is to hold down <ctrl> while opening directories, preventing !Boot files from running. This is all very well – provided that users remember and that not running the boot file doesn't lead to additional complications! Minimising the number of applications in each directory helped considerably.

Another factor to consider was that, with many applications, !Boot does nothing more than perform "*IconSprites <Obey$Dir>.!Sprites", a redundant command because it is assumed as a default. If this is all that the !Boot file does, it can be deleted, speeding up the opening of directories.

Since all of the work stations were RISC OS 3.1, with some built-in fonts, !Fonts could be left off the system – limiting choice, but necessary.

!Menon and !Memphis

Menon, a well-known public domain program by Joris Röling, offered an easy-to-use interface, via a standard menu 'tree' on the iconbar, with similar applications grouped together.

The real joy for the network manager lies in the provision of a second module, MenonRT. After editing the menu contents, changing Menon's !Run file to load the MenonRT module instead of Menon means that users can't fiddle – brilliant! Users simply select the required application from the menu, with no need to open the root or other directories, offering a real time saving. *(!System and !Scrap must be run, perhaps as part of the user !Boot file, if the root isn't going to be opened.)*

Memphis (MemFS) is a public domain application by Brian Brunswick which provides a dynamically resizable ramdisc by using the system sprite area for storage. Each workstation is configured with the minimum sprite memory, and scrap files are redirected to MemFS by the Memphis !Run file. Scrap files are then handled within machine memory, instead of working across the net. Dragging from one application to another is instantaneous.

Both of these applications were added to the user !Boot, producing a system that was easier and a little quicker to use but, of course, application loading was still painfully slow.

NetGain

NetGain, produced by Digital Services, offered the next step forward. The basic package cost £200, consisting of an expansion card and an application disc. There was a full review in Archive 7.1 p77.

As provided, NetGain serves ten client stations. To serve more clients, additional 'keys' (a small hardware link) need to be plugged into the expansion card. Each extra key, costing £100, allows another ten client stations to be served by NetGain. I bought one extra key so that all of the computers in the IT room could be served.

The expansion card needs to be fitted to the computer being used as a server before the software will run. A hard disc and 4Mb of memory is recommended, so the A5000 was ideal.

The server software operates in one of two modes: manager mode or server mode. Initially, NetGain starts up in manager mode.

The first step is to set up which stations are to be NetGain clients. The Stations menu option brings up a window containing all network station numbers. Simply clicking on the appropriate station number selects a station as a client.

The second step is to set up the contents. Clicking on the NetGain icon opens a filer window. The applications and files that are to be provided via NetGain are then dragged to this window.

The final step is to switch to server mode. The contents of the NetGain filer are automatically processed, compressing the applications/files. A window shows the original and final size.

It is the final size that is important. Client stations must have sufficient memory to store the NetGain file and leave enough free to run applications. The NetGain file can be up to 2Mb, so Digital Services recommend that client stations should have 4Mb of memory. The cost of upgrading all twenty A3020 computers to 4Mb would have been considerable, so I decided to try with the existing 2Mb.

This meant that the size of the NetGain file needed to be limited to about 800Kb. Since word processing is a major activity, NetGain was set up to provide !System, !Printers (which is slow to load on a standalone computer, let alone across a network), !Menon, !Memphis, a few fonts, !PenDown and !Pendown resources (because the dictionary is very slow to load over the net).

Client stations need to be configured to boot from the NetGain server. A configuration program is included on the disc provided. Once done, <ctrl-break> or switching on the computer will start

NetGain. The NetGain filing system is then available as an icon similar to Apps.

One clever feature is that system performance improves with use. The server 'learns' which applications are most frequently used and ensures that those are available first.

Superb! All of the basic word processing related applications were immediately available on the workstations, without the need to log on unless files were to be saved. The speed of application loading was possibly even faster than when using a hard disc on a standalone computer.

Problems occurred, however, with memory hungry applications such as Revelation and Eureka. I tried removing unnecessary elements from the NetGain filer, such as !boot and !help files. The only way that I could free enough memory was to remove so many files that NetGain became close to useless.

What about quitting NetGain, as described in the manual? No. The icon was removed from the iconbar but memory was not released. A number of telephone calls and letters to Digital Services finally produced an explanation. NetGain uses module memory. As has been discussed in recent issues of Archive, once memory has been allocated in this way RISC OS guidelines dictate that modules are not removed because they may be in use by other applications.

The only solution, therefore, was that when applications demanded more memory, the NetGain server was turned off and work stations re-booted. This was fine in a lesson situation, but in 'free-time' sessions, when a variety of applications were being used, those who needed NetGain were asked to boot their computers and then, after the NetGain server was turned off, others would re-boot their machines.

For inexperienced users this 'two-way' interface was confusing; there was one approach to using the net with Netgain and one without. The same problem occurred when using RISC OS computers around the school. NetGain does not operate across network bridges, so when using computers outside the IT room it was always 'without'.

NetGain produced a remarkable improvement in network performance for a few applications. This is what it aims to do, i.e. reduce network traffic by providing the most commonly used applications. I couldn't help feeling, however, that management issues aside, I would be almost as well served by a 1.6Mb floppy storing compressed applications/files in each computer's drive.

AppFS Release 3

In late May 1994, I discovered AppFS, produced by AngelSoft and costing about £100. The product is essentially unchanged since the earlier Archive review (7.4 p52), the new release addressing problems arising from the introduction of AUN/Level 4.

Applications and files to be provided via AppFS must be stored on a 'read only' disc. This is most easily achieved through the installation of a second hard drive on the server. Not so long ago, this extra cost would have been prohibitive. Recent falls in hard drive costs mean that this is now a reasonable option, the combined cost of the AppFS software and the drive being comparable to the cost of NetGain. One drive can then be read-only, used for applications, and the other for user files.

This read-only approach is necessary because the AppFS server delivers specific sectors to clients when they are requested, maintaining a cache of regularly required sectors. AngelSoft claim that on a 4Mb server, approximately 80% of required sectors are likely to come from this cache. Client stations keep a directory cache of frequently used directories, speeding up access to files.

In practice, this produces significant improvements in speed. For example, loading Revelation Imagepro to the twenty workstations improves from 4 minutes down to 1 minute. Reliability is better, with all stations usually loading first time.

AppFS also allows a consistent interface. The filer icon is available to all stations, including those across bridges, all of the time. Unless files need to be saved, logging on is unnecessary, saving time.

The true test was that just three days after installing AppFS, I was taken ill and was out of school for nearly three weeks. Non-specialist staff were required to 'cover' and everyone was able to use the system without difficulty – a situation which would not have existed with NetGain.

The only problems occur when a large number of work stations are re-booted at the same time, resulting in what I assume to be network clashes. Re-booting takes only a little extra time. The other problems occur when games save positions, e.g. 4Mation's 'Maths Circus', or need to write to disc at run time. Usually, the file being written is within the application itself, a feat not possible under AppFS. It is then necessary for users to be logged on and the save files redirected to a writable area. Some older applications, especially Sherston adventures such as Microbugs and Fleet Street Phantom, will not run unless the user is logged on the normal way.

Ethernet versions

There is an Ethernet version of NetGain and the 'Application Accelerator' included with the latest AUN release provides the equivalent of AppFS, without the need for a read-only hard drive. *(The fact the Application Accelerator does not work with Econet seems to be buried in the small print of the publicity material, so beware!)* I have not had the opportunity to try these but assume that the same comments as for Econet versions apply, only with the expected increases in speed.

The future

Level 5 / Nucleus – The next step forward will be offered by the release of Level 5 Fileserver software, possibly as early as the first quarter of 1995. (This may be called 'Nucleus', instead of Level 5, reflecting the product's Digital Research origins.) The first snippets of information about this product suggest that it will go a long way towards addressing the concerns of network managers everywhere.

A new disc format will replace ADFS, removing the much criticised 512Mb limit on drive size and allowing the use of long, meaningful filenames. Fileserver hard drives will need to be reformatted to take advantage of the new facilities, a major task on larger sites

The fileserver software will run in the background, allowing up to 100 simultaneous users. Currently, five users can access a CD-ROM simultaneously, though it is hoped to increase this to 6. Improved management software will provide for groups of users, with each individual allowed to be a member of several groups. Hopefully, Acorn have looked at third party utilities, such as NetManage, during the development of the management software.

The software will operate on Econet or Ethernet, offering considerable speed increases on both.

Prices have yet to be finalised, but will be on 'user' basis rather than the current single fixed price, i.e. the bigger the site, the higher the cost.

Risc PC – With the fact that so much of the basic software for the Risc PC is stored on hard disc rather than in ROM, a quick telephone call confirmed that Acorn have no intention to produce a disc-less network station.

It obviously makes a great deal of sense for applications, the size of which is steadily increasing, to be supplied from a local hard drive. The management of such a system, however, has the potential to become nightmarish. In the Risc PC, Acorn have addressed some of the issues, allowing for hardware locking of configuration and password locking of hard drives, both very welcome additions.

However, one of the great advantages of a network is that upgrading software is easy – any upgrades of software on the fileserver are immediately available to all users. It would still be possible to do this, of course, with Risc PC workstations loading applications over the net, but this would largely defeat the object of all workstations having a hard drive.

I hope that Acorn will be giving some thought to the plight of the overworked network manager, possibly with the inclusion of download software which would allow for management of all hard drives on a network from the fileserver. A software upgrade could then be automatically downloaded to all workstations.

Conclusions

Anyone running a network is aware that the days of Econet are numbered, hardly surprising for a system originally designed to cope with the demands of workstations of a much lower specification that today's computers. We are all aware of the alternatives now available, such as Ethernet and Nexus. For many, however, practical concerns have dictated the continued use of Econet.

For network managers in this situation, AppFS offers an immediate, affordable route to improve-

ment in performance. NetGain offers greater improvement, but for a much more limited range of applications, even with the recommended 4Mb memory.

Level 5/Nucleus will certainly help, but the only real solution is going to be to take the plunge and persuade management to invest in more appropriate network systems, whether that be Ethernet, Nexus or some other system yet to appear over the horizon.

All that is certain is that, as soon as our dream system is installed, something better will appear over the ever-expanding horizon. A

Multimedia Column

Paul Hooper

What is Multimedia?

You may have seen adverts on TV for certain well-known computers as being 'multimedia' units. After visiting certain high street outlets to see these machines in operation, one thing became apparent – their only claim to being multimedia units is that they have a CD drive and a pair of speakers. I also asked quite a few sales assistants to recommend a program that could author a multimedia application on any of the machines. The replies were interesting. Most said that I couldn't author my own applications as I wouldn't be able to write to a CD. A Mac salesman did recommend a package but at over £600!

This brings me back to the title. The word 'multimedia' seems to have be hi-jacked by the major companies to sell CD drives with their machines. Acorn has now followed suit and launched their own 'multimedia' Risc PC with a CD drive and a pair of speakers – but no authoring system is included in the package. Come on Acorn! You can do better than that! It must be worthwhile to package a copy of Genesis Project or Magpie with the machine and sell it as the only true multimedia machine.

The problems of size and display

This month I want to look at a series of problems sent in by readers. Many of these are concerned with the size of binders that they have created and the display of them. Although this will be mainly concerned with Genesis, many of the hints and tips can also be applied to Magpie and Key Author.

Text display

One question that keeps recurring is the problem of 'ragged' text. Create a frame on a blank Genesis page, then type in some text. Using the page 'style' option, set the background colour of the page to red. Then set the colour of the frame to transparent. Move the frame slightly and you will see that text has become ragged. This is not a problem with Genesis, but the way the computer displays its text. The font anti-aliasing requires a background against which to display. The cure is simple, rather than set the frame to transparent, set it to the same colour as the page background and your text will be displayed with perfect clarity.

However, our problems don't end here, if you now turn off the border of your text frame, you will see that the text frame background is a slightly different shade of red to the background of the page. If you examine the script language for the page, you will see that both items have the same colour definition. Even using the 'choose colour from screen' option will produce the same result. At the moment there is no solution to this problem, but Oak are aware of it.

Application size

With the advent of cheap and easy ways to import video, animation and sound, the 800Kb floppy disc imposes real restrictions on what can be put into a multimedia application. Also, now that the restriction on the number of fonts within Genesis has been lifted, the temptation to use a number of different fonts means that you have to include a font directory on a disc. To make these binders work on older machines, we need to observe the 800Kb limit. The solution is to link together a series of discs containing parts of your multimedia application. As this varies with which of the programs you are using I have laid out how to do this for each program below.

Genesis links

As I showed last month, it is fairly easy to link Basic or other programs into Genesis by using the drop and drag technique. One of the few exceptions to

this is that you can't drag and drop other Genesis applications. If you try, all that happens is that another copy of browser is loaded and the machine crashes. I had struggled with this problem for some while when Stephen Williams of Liverpool suggested an answer. He has created a small basic program called 'KillBrowse' which is placed in your copy of !GenLib. You then alter the run file of the applications so that variables are set up to chain the previous or next Genesis application. The lines below show the format:

```
SET PreviousGen$App
ADFS::0.$.Chaining.!Link1
SET NextGen$App ADFS::0.$.Chaining.!Link3
RUN <GenesisEd$Dir> <Genesis$Frames>%0
```

You will need to alter this to your own path names. I have included an example on the monthly disc (as supplied by Stephen), but be sure you uncompact the examples onto a floppy disc in drive 0. Also, you will need to copy the KillBrowse module into your copy of GenLib. If you don't get the monthly disc and would like this example, send a disc to the Swap Shop and I will send you the example.

Magpie links

Paul Shelton from Stockport had a similar problem with Magpie. He provides Magpie files for primary schools. This restricts him to the 800Kb format as many smaller schools still have computers unable to read 1.6Mb format. By the time you have taken out the space for MagpiRead and other resources, this leaves you with 500Kb or less for the actual binder.

The solution is to put the resources on one disc and the binder on a second disc, but Paul added another condition, the whole binder must be idiot proof, i.e. with you click on the resources disc, the computer must load System, Scrap, Fonts and MagpiRead and provide a message to tell the user to insert the binder disc. This a fairly complex task to set up, so I have prepared an example called "MagpieL" which I have added to the Swap Shop. It contains a set of detailed instructions and if you want a copy just drop me a line.

Acorn World and BETT '95

Having been at both shows, I would say that there was little new for multimedia at either show. The number of ready-made CD multimedia applications has increased, and the interesting point here is that the price point for a CD varies between £40 to £200. Having looked at some of the cheaper offerings by companies like Anglia TV, I just wonder how the price of the more expensive CDs can be justified. A number of readers have also commented on the effectiveness of this type of software. Multimedia is not designed to be a passive way of presenting information – the educational value of multimedia is in the authoring of an application. I have learnt a good deal over the past few years by making my own applications. First of all, you need to research the subject and gather the resources to make your application. Then you need to plan out the way you will present your information. The final stage is the creation of your application and solving the problems that you encounter.

There was a new authoring program from SEMERC at BETT. This is an improved version of their Optima program called Ultima. I have yet to try this out, so I can't really comment on it yet. Cable News 2 from Lindis has now become a full multimedia program, but I will refrain from commenting on this package as I now work for Lindis! There were also hints going around that Clares were producing an authoring package that will work on both Acorn and Mac platforms.

I had a chat with Tony Holdstock on the Oak Stand and have a number of fixes for people with problems but I will also be looking at number of new ways of using Genesis in next month's issue.

The Swap Shop

I'd like to thank individually all the people who have sent me applications over the past couple of months but as this would fill up the rest of the column, can I just say one big thank you too all of you? I'd also like to thank you for all the kind comments on the column that have come in. The Swap Shop continues to grow with over 75 different applications now available filling up 50Mb of my hard disc.

One or two readers have also enquired about the conditions for the Swap Shop, so let me just remind you. All the applications are free to Archive readers as long as you send me the blank discs and the return postage – a sticky self addressed label also makes my life easier. If you want a copy of the latest

catalogue then send a 800Kb disc with an SAE. HD discs are no problem.

The end bit

If you have any hints and tips or questions on multimedia or if you require a swap shop catalogue please write to: Paul Hooper, 11 Rochford Road, Martham, Great Yarmouth, NR29 4RL. (01493-748474) A

First Page

Richard Rymarz

Each term, the children at Gt Witchingham Primary School produce the 'Witchingham Whirlwind' – a school newspaper that is distributed to the surrounding villages via the Post Offices as well as the parents of the children themselves. It has been produced since 1988 and, this summer, we completed issue 35. Originally, we used a marvellous program called 'Typesetter' which managed wonders on the limited memory afforded by the BBC Model B.

Within two years the school bought its first A3000 and, quickly dismissing the Acorn DTP package, the children began using Ovation. Despite the various incarnations of Impression, word processors such as EasiWriter and StartWrite and the introduction of Style, the school has kept with Ovation since the children find it easier to use than other alternatives. Further, Ovation was much more powerful than primary school programs such as Phases. Ovation coped with both our word processing and DTP needs especially for children at Key Stage 2.

Introducing First Page

One program that could have found a place in school was Pendown produced by Longman Logotron. This also originated on the BBC Model B and migrated successfully to the Archimedes range. It is now in its third or fourth incarnation. However, there must now be some doubt as to whether it will be developed further because Longman Logotron have just released First Page, a fully-featured DTP package which, at its present price, leapfrogs the limitations imposed by Pendown and must pose a serious threat to Ovation in particular.

Having said that, Beebug are set to release Ovation 2 which will include a new user interface. Perhaps this will provide real opposition to Style and Publisher as well as fight off newcomers. As First Page develops further, there seems little sense in continuing developing Pendown since the features will increasingly overlap. In the meantime the two programs do complement each other, as Pendown files can be imported directly into First Page.

The package

First Page comes on two discs. The first one contains the main program, fonts folder with two font families, !Scrap, a set of boarders, frames, clipart and templates. It also contains !Set1stPage which is the configuration program allowing the user to tailor the program to suit the individual user. Such configurations can easily be saved. Disc two contains more clipart, a sample style to use with !Set1stPage and a tutorial. Everything is easily transferred to hard disc.

The manual is the usual Longman's style – a 50 page A4 book, beautifully produced, containing easily read instructions and a full index.

The program

Clicking on !1stPage loads the program onto the iconbar. From here, documents can be loaded and removed. Clicking <select> opens a window showing options to use pre-defined templates. These include a booklog, fax, invitation and menu. These may sound school-based but new templates to suit individual needs are easily created and saved.

Choosing 'Fresh start' opens the main screen and the user is immediately struck by the graphical interface which has more in common with Style than the earlier Impression or Ovation. A number of icons are arranged across the top of the document, allowing easy access to all the major features of the program. Save, print, cut, copy and paste are familiar icons as are bold, italics and underline. Clicking on the Textstyle icon reveals the style editor where font, weight, style, colour and size can be altered, created and saved.

The page icon gives easy access to page size and orientation; whilst zooming is controlled via the magnifying glass. Further icons allow the user to view a variety of layouts; create, show and lock grids; hide and view text and graphics; set a background colour or graphic (nice one this, since the graphic can be seen in an accompanying box); create a simple boarder defining its thickness and colour; define the interior margins or inset; and finally a restore icon. All are controlled by a simple click on the relevant icon – very easy.

Underneath the iconbar are the text layout tools showing the now standard ways of justifying text. There are two types of tabs: left tab and left indent – there is no decimal or centre tab. Leading is controlled by two icons and a window that shows a positive or negative leading. Each frame has its own ruler which can have its own style features. Finally, there is the typestyle selection dialogue box from which any defined style can be chosen.

Page numbers are clearly shown at the top of the document window while the status line appears at the bottom. To the left of this line are three more icons: the clip board icon showing if the board has text, sprite or drawfile present; the frame store which can hold any defined frame on disc and is easily accessible every time 1st Page is opened; and finally, an append icon which allows files to be merged with existing ones.

Frames are easy to create – just point and drag with <select>. Size can be altered using <adjust> and can be positioned using the definable grid. Frames can be rotated and linked together. A double-click inside a frame with <select>, the cursor appears and typing can begin.

All in all, the features are more than adequate and well presented. Four other areas stand out in this excellent program:

1. Page ordering. When a page number tag is dragged on top of another page tag, the two pages swap places. This, and the ability to view up to eight pages (at 30%) on a decent size screen, allows amazing flexibility in the final document presentation.

2. OLE. First Page contains its own version of OLE – object linking and embedding. Any graphic – drawfile or sprite can be loaded into First Page. Double-clicking on a frame containing a graphic effectively loads it into its parent program. Thus, for example, a sprite will load into !Paint where it can be fully edited. Closing the file will cause a request for the user to discard or save the file. Saving it will load the edited graphic back into the First Page frame. This is very useful but even more so when added to the ability to rotate text.

3. Text rotation. Inside the frame sub-menu is an option to turn the text in any frame into a graphic. It can then be rotated like any other graphic. Double-clicking loads the text back into !Edit where it can be edited. Saving the file loads it back into 1st Page as a rotated graphic – brilliant!

4. Printing. First Page's printing facilities are excellent. Six possible formats are available. The more usual 'batched', 'fitted', 'pairs' and 'book pairs' formats are available, as are 'fours' – four pages printed on one sheet of paper; and 'folded fours' – where the paper can be folded into a greetings card, for instance.

Quibbles?

Yes, I have one or two. Firstly, there is no spell-checker. Pendown has one and I am sure that later versions of First Page will include one. In the meantime, spell-checking – one feature vital to us all, especially, children – must be done in another program.

Secondly, cut, copy and paste do not conform to the accepted conventions of <ctrl-X>, <ctrl-C> and <ctrl-V>. Text is cut or copied to the clipboard and is reloaded by dragging the clipboard icon back into the frame. Perhaps children will find this easier to understand but I prefer the conventional method.

Thirdly, highlighted text cannot be deleted by pressing <delete> or the space bar on the keyboard, neither can type be overwritten – features that I use often. Maybe these are purposely done to restrict any accidental deleting by children.

Fourthly, controlling the cursor inside a frame is slightly sluggish. Highlighting text is a touch cumbersome. I would prefer a more responsive feel more akin to other word processors/DTP programs.

Finally, I am using First Page on a Risc PC and have managed to make the program crash on a number of

occasions. I don't know what I did to provoke these problems since they seem to be different every time. Hopefully, the publishers will iron out such problems without too much inconvenience.

Conclusions

First Page is definitely worth buying. It provides a number of sophisticated features that give children the ability to use it at a number of levels. It could also be used very effectively by adults and should not simply be dismissed simply as a "schools' program". It is a very lean program taking up a meagre 280Kb which allows it to be used quite happily on a 1Mb machine.

The real question for us at Gt Witchingham Primary school is: will we use First Page instead of our present program. The answer is yes, because of the modern graphical interface and our wish to give our children a feel of an up-to-date visual working environment. However, we will still need to write and edit our text in Pendown, Ovation or similar text processor and put up with the inconvenience of exporting files. Come on Longman – give us a spell-checker and a more sensitive text editor. Make First Page into a true document processor. If tight memory is a problem then at least allow those with extra memory the option of including a dictionary.

Finally, I would like to congratulate Longman on providing a suite of excellent and very professional programs for children. First Page joins Pendown (WP), Pinpoint Junior (database), Advantage (spreadsheet) and Magpie (multimedia) as truly sophisticated tools that children can really use.

First Page costs £49 +VAT (£54 through Archive) for a single user version, £140 +VAT (£155) for a primary site licence and £190 +VAT (£208) for a secondary site licence.

DTP Column

Mark Howe

This month's column starts with some feedback from readers on a variety of subjects.

Ovation

I have received several letters along the lines of "Ovation – let alone Ovation 2 – is at least as good as Publisher, costs less, is not dongled and is easier to use." Three people informed me that, judging from last month's column, Ovation's Style Sheet feature is more flexible than Publisher master pages. A little more competition for Computer Concepts in the Acorn DTP market can only be a good thing for customers, and I certainly wish David Pilling and Beebug every success. *(Beebug said, "We're hoping it will be ready in May – for the Harrogate Show!" Ed.)*

Having spent a couple of thousand pounds on various versions of Impression, the organisation I work for is extremely unlikely to change to Ovation 2, no matter how powerful it turns out to be. My contribution to this column is therefore always likely to focus mainly on Publisher. However, I would welcome contributions from Ovation fans. Obviously, I will not be able to verify their accuracy, so please check them carefully. In this vein, Noel Thompson writes:

"<Ctrl-Shift-P> and <Ctrl-Shift-Q> are two of the most useful routine facilities in Ovation, providing change of case and letter transposition respectively. The change of case incidentally works either on a single letter at the cursor, or equally on highlighted text *(you have to buy Publisher Plus to get this feature in Impression, MH)*. But <ctrl-P> hides pictures from the screen and from being printed. Until I realised that it is quite easy to execute <ctrl-P> by mistake when using the change of case facility, I was at a loss to understand why a picture frame containing, for example, a logo would sometimes vanish. No problem when you know the reason: a second <ctrl-P> toggles it back. Perhaps this will save someone else some anguish!"

Footnotes

MP Churchill writes that TechWriter produces footnotes automatically. This tends to confirm my suspicion that this is a WP feature, and is difficult to implement in a full-feature DTP package. D Thornton complains that the option to generate guide frame headers and footers has been removed from Publisher, apparently for our own protection.

I would still like to know if XPress or PageMaker can handle footnotes. Alternatively, can anyone

suggest how Impression footnotes could be implemented in a flexible way (i.e. taking into account multiple columns, etc)?

Publisher wish list

A couple of people have sent me lists of features which they want added to Impression. It might be interesting to have some other opinions on this subject, especially with Ovation 2 just round the corner. If you do not have time to write a long letter, why not send me a postcard with the following three pieces of information:

- What you like most about Publisher/Style,
- What you like least,
- The one feature you would most like to see added.

I will let you know the results in a couple of months' time.

On dongles & upgrades

Following my review of Publisher, several people have written to me to defend the button bar and other aspects of this program. Strangely enough, no-one has written to me to say how much they appreciate that "convenient and effective" form of copy protection known as the dongle:

"On the dongle, (CC) show their true colours. They are far less trusting than any other Acorn company... To say that without such checks they would go bust is utter nonsense..." *EM, Harwich.*

"I am strongly against user-unfriendly dongles being used as a form of copy protection" *RG, Nottingham.*

"Please put me down as Head Donglephobe-in-Chief" *JN, York.*

All those who have written to me about Ovation say they rejected Publisher because of its dongle.

You may not know that Impression and ArtWorks poll their dongles every couple of seconds while the programs are running. This means that there is always an amount of activity on the parallel port, even when the computer is not printing.

One ArtWorks user tells me that whenever he switches off his computer, the dongle sends a few characters to the printer (a LaserJet 4L, which has no power switch), with the result that the printer wakes up and wastes a sheet of paper. I use a printer sharer, and occasionally have the same problem when switching between computers.

On two occasions in the last week, Publisher Plus has suddenly died with a "hardware key not found" message. I suspect that the length of cable between the parallel port and the printer make the whole set-up rather sensitive to electro-magnetic interference (on one occasion Publisher crashed whenever a builder in the room next door switched on his angle-grinder!). One version of Impression actually came with a dongle manual, explaining several different reasons why the dongle may not work.

So do dongles protect CC's investment? A significant proportion of their Impression-related income must come from upgrades. I was surprised to discover that Publisher and Publisher Plus upgrades work with the same dongle as Impression II. Worse (for CC), all those who upgraded from Impression II to Style now have a spare dongle to pass on to the unscrupulous.

CC's policy of only supporting registered customers makes some sense for software, but is demonstrably ludicrous in the case of firmware upgrades for expansion cards. A colleague who recently bought a secondhand ColourCard was told he could not have an upgrade without a letter from the registered user. Why? What earthly use is a ColourCard upgrade to anyone who does not have a ColourCard? Did they think he had made his own board from components purchased at Tandy, or is there a large market in stolen podules? All this so-called security takes time and therefore costs money.

Since DTP does not stand for Dongles Try Patience, I plan to send future letters on this subject to Gerald Fitton for possible inclusion in his column. In the meantime, I suggest that those of you who buy Ovation 2 to keep full use of your parallel port, drop a line to CC, pointing out that their dongle policy has just lost them a sale.

Acorn Publisher magazine

This bi-monthly 'glossy' magazine was launched at the end of last year. As the name suggests, it is aimed at those using Acorn systems for publishing. At £24.95 for six issues, it will be mainly of interest to serious DTP users, although the editor Mike Williams (formerly of RISC User) hopes to provide

articles for beginners too. Further details and back issues (£5 each) from Akalat Publishing.

Better Documents Part 2: Raw Materials

Last month, I looked at ways of ensuring that your publications can be read. Of course, this is only of benefit if your publication has something to say! It is a great pity to spend lots of time producing an elegant page layout which focuses the reader's interest on badly-written, uninteresting or irrelevant prose. The same could be said for beautifully-rendered images which actually detract from the overall message of your document.

Text

Check the facts – It is amazing how often names, dates and places get mistyped or omitted, especially in headings. Recently, I narrowly avoided sending out a press release for our organisation's '95 activities with *Provence '94* as the title!

Check the spelling – Run your text through a spelling checker as a matter of routine, but remember that this will not detect when you have used 'to' instead of 'two' or 'there' instead of 'their'. Also, look for repeated words (a a common mistake).

Check the grammar and punctuation – Badly-constructed sentences do not communicate. If you cannot tell the difference between *it's* and *its* or between *who* and *whom*, get someone else to check your documents.

Style

Keep it **short**. "Vigorous writing is concise. A sentence should contain no unnecessary words, a paragraph no unnecessary sentences, for the same reason that a drawing should have no unnecessary lines and a machine no unnecessary parts. This requires not that the writer make all his sentences short, or that he avoid all detail and treat his subjects only in outline, *but that every word tell.*" (Strunk and White, see below)

Keep it **simple**. The aim of most documents is to communicate, not to impress the reader with your grasp of English. Your subject matter may be complex, but this does not mean that the prose has to be clumsy.

Keep it **structured**. A formless mass of words is intimidating. Each paragraph should present one main idea. Group paragraphs treating the same theme under section headings. Put sections in a logical order.

Keep it **straight**. Failed attempts to write in a colloquial style can be excruciating to read. The same could be said for the current trend of writing in half-sentences. A bit at a time. Omitting the main verb. To sound modern and punchy. Or irritating. Depending on your point of view. *(One reader recommended I read Terry Pratchett. Tried it. Couldn't cope! Sorry!! Ed.)*

For a concise treatment of this subject, I recommend *The Elements of Style,* by W Strunk and EB White, published by Macmillan. Its 92 small pages are packed with useful guidelines, not to mention some fine invective. See, for example, the following entry in the chapter on misused words and expressions: "The foreseeable future. A cliché, and a fuzzy one. How much of the future is foreseeable? Ten minutes, Ten years? Any of it? By whom is it foreseeable? Seers? Experts? Everybody?"

Graphics

Are they necessary? – Illustrations do not always make a document more readable, especially if they have little or nothing to do with the message you wish to communicate. Clipart is a particular menace in this respect.

Are they near any accompanying text? – Tie graphics into the overall message of your document. If necessary, shrink the graphic or edit the text to keep related elements together.

Are they neat? – Blurred photos and blocky line drawings look tacky. If you cannot scan images properly yourself, use a bureau or get your printer to strip in illustrations afterwards. Do not be afraid to crop illustrations to remove distracting elements and concentrate attention on your subject.

Imagesetting Part 3: Colour Printing

Last month, I looked at what is involved in setting up Publisher master pages, as referred to in paragraph 1 of the CC typesetting checklist (Archive 8.4

p63). This month, I intend to tackle paragraph 2, which mentions overprinting. I hope to get to paragraph 19 before summer '96, but the intricacies of PostScript are almost impossible to understand without a little more background information.

Spot and process colour

Most printing work is still one-colour. The ink may be black or another colour. From the point of view of producing artwork, the colour of the ink or the paper is unimportant. All the artwork will be transferred to the same plate, and so no problems of alignment (or 'registration') are involved.

Printing in more than one colour involves making more than one plate. The simplest form of multi-coloured printing uses two or more 'spot' colours. If the colours were yellow and blue, the use of 2-colour spot printing could produce various shades of yellow and blue on the same sheet of paper. Other colours can be produced using more inks. The cover of the February Archive appears to have been printed using four spot colours (red, green, blue and black).

It is obviously important for the yellow and blue plates to print on the same area of paper, but for simple designs where the two colours do not touch, the registration is not too critical.

Process printing is more complicated than spot printing because the inks interact. If, in the example above, we had designed a leaflet using 2-colour process printing, we could have produced various shades of blue, various shades of yellow *and* various shades of green using only two inks. With four specially-chosen inks (cyan, magenta, yellow and black) it is possible to produce almost any colour on the paper. This is known as 4-colour process, and is the technique used for 'full-colour' magazines. The set of four films used to make plates for 4-colour printing are called separations.

Good registration is critical for process printing. If one of the plates is even slightly out of registration the finished document will look blurred. Presses for running 4-colour process are usually accurate to a fraction of a millimetre.

Overprinting

The easiest way to produce separations is to leave a white space on any plates which are not necessary to produce a particular colour on paper. This is called knock-out. It means that if your leaflet included some black text on a magenta background, the text would appear on the magenta plate in white.

If registration were always perfect, this would be fine. Unfortunately, even a small error leads to a white shadow on one side of the text. The solution in this case is called overprinting.

Overprinting means not leaving a gap on other plates in certain cases. If our black text was set to overprint, the magenta background would be solid and any small registration errors would pass unnoticed.

Overprinting only works if the ink is relatively opaque. If you look carefully at the cover of February's Archive, you will see that the black horizontal lines have been overprinted on the red zigzag border, and that the part of the line that covers the zigzags is slightly darker than the rest. You have probably never noticed this before, which shows that overprinting with black ink is generally fairly successful. If the line were yellow, the red zigzags would show through and spoil the overall effect.

(As a matter of interest, the Archive covers are *printed in four colours. The NCS + logo are printed in two colours but in very large numbers – enough for several months. Then each month, the colour + black bits are printed. Registration between the two is not needed as they are well separated from each other. Ed.)*

Publisher provides control over overprinting at the object level (style, graphic...) or the ink level. Setting the black (or key) plate to overprint seems to work perfectly well, although I have never tried it with a colour photo. More to the point, deciding manually which objects or styles need to be overprinted can be fiendishly complicated and, according to T-J Reproductions, is one of the major causes of unusable films. In short, do not try it unless you know exactly what you are doing.

If you follow my advice, you can ignore paragraph 2 of the typesetting checklist altogether!

Trapping

What about light blue text on a yellow background using 2-colour process printing? If you turn on overprinting for blue text, you will probably end up

with green text. If you turn it off, you will probably get a white shadow. The solution to this dilemma is called trapping, and Publisher does not support it.

If applied to the example above, trapping would mean the knock-out on the yellow plate would be slightly smaller than the blue letter. The area of overlap would be green, but this is not noticeable, any more than the grey pixels around black text on an anti-aliased RISC OS screen display.

Charles Moir of CC says that "trapping is near impossible". It is certainly difficult, but PC and Mac packages not much more expensive than Publisher Plus manage it. With a bit of fiddling, it is possible to simulate trapping when the plates are made from film, but this costs money and does not work in all cases. I still have not heard of anyone using OPI, but a trapping feature in Publisher Plus would be useful to anyone doing a lot of 4-colour work.

Next month

I hope to get as far as the Publisher print dialogue box. You can contact me at 2 montée des Carrelets, 84360 Lauris, France. Fax 010-33-90084139. A

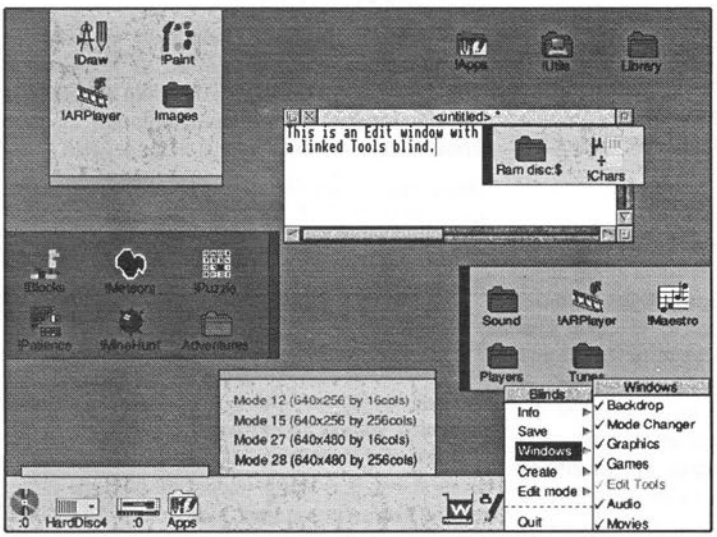
Blinds – Icon Organiser

Peter Jennings

If your pinboard is cluttered up with icons, all vitally needed at various times but some only rarely, help is at hand in a novel and elegant solution called Blinds (v. 1.05). Put simply, it provides windows of any size which can contain varied selections of icons for files, applications and directories. These can be collected on different windows for different purposes and, when not in use, the window can be rolled away like a blind to leave a narrow strip which is clicked upon to reopen or close it. This blind can be positioned anywhere on screen but most conveniently at one of the default settings at the top, bottom, left or right edges.

These windows do not have to be present all the time. They can be individually linked to applications or tasks so that the blind with the appropriate icons will appear, either open or closed, when the linked program is run.

There are, in fact, three different types of blinds: the one already described; a full-screen backdrop,



There are three types of blinds: interchangeable backdrops, "tool" windows which can "float" or be attached to an application window, and click-on blinds which close to a narrow bar.

A "tool window" with icons that change the filetype of files dragged onto them.

similar to the standard pinboard on an Archimedes or Risc PC but interchangeable, and a "tool" blind which looks like an ordinary window. The backdrop and tool blinds do not have a closed position when on screen but can be hidden when not needed.

A blind linked to an application can be positioned anywhere in relation to the application's window and it will follow that window around the screen. Move the application window and the blind leaps back into place like an obedient child keeping up with its parent. The program checks that the positioning is sensible and does not allow the blind to be set where it will not have room to open. If preferred, it can be made to appear only when that application's window has input focus (that is when the caret is in the window and the title bar is cream).

Blinds can be given names of any length but, in the current version, the names appear only in menus and on the title bar of tool blinds.

Customised icons

Icons can be added to a blind at any time by simply dragging them on and they can be positioned anywhere on it. There is an optional, invisible, grid to help position them neatly. In addition, the icons can be resized, larger or smaller, renamed with up to 240 characters, made text or sprite only or given different sprites. An icon can even be given two sprites and have the pictures alternate when it is clicked on. A directory full of PD icon sprites is provided.

Anyone using a macro program, such as Keystroke, can set up collections of icons to execute the hot key commands when clicked on.

Easy editing

Blinds and the icons on them can be edited, copied or deleted, and links can be set or unset at any time. A single click on the iconbar icon, which normally shows a blank blind, superimposes a "W" on it. This now allows the windows (blinds) to be edited and resized and repositioned by dragging them. A second click changes the "W" to "I" to allow the icons on the blinds to be dragged around and clicking <menu> on the blind brings up an editing window. This allows the icons to be changed in a number of ways, including altering the foreground and background colours of the text. A third click on the iconbar icon restores it to its blank state for normal working use.

The exciting part

That is all very useful on its own but the really exciting part of the program is tucked away towards the end of the manual in the "technical reference section". The title is likely to put off the less enthusiastic computer user and, as it is mainly a detailed explanation of the various menus, the more experienced may well think there is nothing more to be learned from it. The gems come to light in the two "Commands" options on the Edit Icons menu. These make it possible to change the actions which result from double-clicking on an icon or dragging a file onto it. The normal command carried out when clicking on the icon is shown in an editable window and it can be changed there for any other command. An extreme example given in the manual is that the !Edit icon, which will of course normally run the Edit program, could have its command changed to *Time so that a double-click would then bring up a window with the current time shown in it. To complete the exercise, the icon sprite could be changed to match its new role (there are various clocks and watches in the supplied PD icons file) and "!Edit" could be altered to a more appropriate name, such as "Show the time".

Two example blinds containing sets of icons for various applications are provided as examples of how the action of dragging a file onto an icon can also be changed. A file dragged onto any of these icons changes its filetype to that of the selected icon.

Other ways to use these versatile facilities are suggested in the manual.

When to buy

Blinds is to be upgraded in the summer and will then cost more. If you are interested in it, it is worth buying now because existing users will get the new version free. It is already a well thought out and versatile application with a closely-written 43-page illustrated manual to explain it all in great detail. Blinds is easy to understand and use but, for reasons given above, it is worth wading through the rather lengthy instructions at least once.

Blinds costs £19.95 from Quantum Software (no VAT) or £20 inclusive from Archive A

Risc PC Column

Keith Hodge

I must start by thanking all the readers who responded to my cry for help for a version of Zap which works on the Risc PC. I was inundated with phone calls, letters, parcels and one offer of hand delivery! All of this, of course, goes to prove that the Acorn world is still the family circle that it has always been. And long may it stay so.

David Holden of APDL sent a copy of his catalogue and Zap, f.o.c., as I guess he felt that I was so out of touch that I needed all the help that I could get! There is a huge range of software available and I wonder if David will let us all know in his column if all the software he supplies is Risc PC compatible.

Monitors

From Jan De Poorter: "My monitor is a MAG MX14 multisync which I use with the AKF60+ monitor definition file as sent in by Andrew Clover (Archive 8.1 p39). It gives a very steady picture in 1024×768 pixels in 32,000 colours. 1280×800×32K and 1280×1024×256 are possible, but not without flicker."

Floppy disc drives

Again from Jan de Poorter: "One of the first things that became obvious was the fact that the Risc PC only has one floppy disc drive, and cannot be expanded. Oh no?!

"I have just looked at the contents of the 3½" 1.6Mb ADFS disc in my second external drive. I have even loaded a basic file (dated 1986) from a 640Kb 5¼" floppy drive. This disc was formatted and written to under (Watford) ADFS on a BBC model B. How do I do it? Back in 1992, I purchased a high density card for my A410 from Arxe systems. After all the problems caused by RISC OS version 3 appearing and Arxe leaving the Acorn market, I upgraded (actually a new card, to use with the Arxe drive) thanks to the Serial Port. So I now have a 'Serial Port Alpha Dual Card', which gives me a SCSI interface and a high density interface. When the Risc PC appeared, I needed a new PAL prom, but now the card works fine, although it does not integrate with the ADFS. It uses its own filing system, Quad FS. The card has allowed me to connect the above mentioned external floppy disc drives as well as a second internal 496Mb SCSI hard drive (Fujitsu M2624-512/revision 0405).

"This all sounds fine, but... I talked to Hugo Fiennes at the Serial Port, and he told me that they don't make the dual card anymore, so I am probably one of a few lucky ones that still have one."

I have been talking by telephone to Martyn Purdie during the last few days. He has just purchased a Risc PC – his previous machine being a BBC. He reports that the only problems suffered, have been the lack of a second 5¼" drive to ease the import of software from the BBC, and non-delivery of the second processor card (PC card). I have been able to help him with the first, but there is currently no solution to the latter.

Software information

More from Jan De Poorter: "The problems with Tracker modules, mentioned in Archive 7.12 p55 are indeed down to this module. The latest version (4.09) does not work on the Risc PC. Version 4.00 seems to work but the speed at which it plays the tunes is much too fast. So we will probably have to wait until Mr. Farrow writes a new version which will work on the new machine.

"For those who would only like to play tracker tunes, there is an excellent program called 'Pro Track' (version 1.11 – 30 Jan 1992), written by BASS in Belgium. This works fine, at the right speed and is available from APDL (disc B175).

"I used to change the colours of the desktop pointer to yellow, with a black border, from my !boot file. I used the *Desktop SetPalette command. This was part of the PaletteUtil module under RISC OS 3.1. This command seems to have disappeared, together with the PaletteUtil module, although it is still documented in the User Guide (page 460). I now run a small basic program to change the palette using SYS "WimpSetPalette". Could there be a simpler way?

"When a 'Not enough memory' error occurs, it is sometimes useful to look in the Taskmanager at the

Module area slider. It is often possible to regain lots of memory just by sliding back the Module area slider in the System memory allocation area.

"Now that the problem with Wimpslot allocation has been solved, I would like to point out another problem in this area. Some programs fail to work because they have not allocated enough memory to load their sprites, although the same problem did happen on earlier versions of the operating system. If the program is written in Basic, one might be able to solve the problem by augmenting the value xxx in DIM sprites %xxx or (similar). Any ideas why this happens? *(Could this be similar to the Wimpslot problem? i.e. is sprite memory allocated in pages, the size of which has changed under the new OS? K.H.)*

"I have had problems with screen redrawing. At first I thought it was a problem with Publisher, but recently, I saw the same problem with Squirrel. What happens is that, sometimes, a window is redrawn, and redraws even an area outside its window bounds, drawing over other parts of the desktop.

"Sometimes, when opening a filer window, the text under one of the icons is unreadable and inverted. This can be solved by simply clicking once over the icon. The icon becomes selected (and thus inverted), but the filename can now be read.

"Am I alone in experiencing these, albeit small problems?"

Software compatibility

Yet again, from Jan De Poorter: "A hint for users of !Larger, the virtual desktop and backdrop from Warm Silence Software: in 1024×768 pixel screen modes (and, in fact, all screen modes where the horizontal resolution is not an exact multiple of 52) the right icons on the backdrop will not align with the far right edge of the screen. The solution is to define a new mode, by duplicating the section of the monitor definition file that defines the 1024×768 pixel mode and, in the copy of this section, change all references to 1024 to 1040. Then resave the file. After a restart, you should now have a new screen resolution available with 1040×768 pixels, where the right icons on the larger backdrop will align correctly. The only thing I noticed is that the frame rate at this resolution has dropped from 60 Hz to 59Hz but the picture quality is still perfect."

Hardware and software news

I have recently purchased the "Design IT" Teletext decoder (now marketed by CC as the TV Tuner with Teletext software at £187 through Archive) and it is working excellently allowing me to automatically download and save to disc any desired pages, by running a script file when the application is auto-booted on startup. I use it for the Shares Pages on CH4 and am slowly building up a database of shares information. The only thing I wish is that I could persuade Rob Cowan of Design IT to give access to Basic from the script file, then I could auto run the data manipulation program I have written which strips out the data from all the Teletext headers, etc. At the moment, I have to remember to do it and, at 49 years of age, it gets harder and harder to remember! The support received from Rob is first class – I have received three free upgrades as a result of mine and other owners' requests for improvements.

Readers' comments

Ted Pottage has written to let me know that he will be sending some compatibility info when he has finished trying out the existing software he has, on the Risc PC that Acorn has loaned for use by the British Dyslexia Association Computer Committee at the seminars they are presenting at BETT '95.

He would also like to hear from everybody who has any software which would be of use to Dyslexic people

Wish list for the next Risc PC / New issues of Basic

- Removal of ADFS FileCore 512Mb disc size limit
- Removal of 32Mb partition DOS size limit
  (You can have partitions over 32Mb but you can't look into them from RISC OS. Ed.)
- Long file names
- Let's have a backup facility available for hard drives to floppies via the drive Icon.

Gripe of the month

Hmm... I have just be told that it will be July at least before the Acorn 486 PC card is released upon the unsuspecting public. Please Acorn, write and tell me this is not true! My face is going to be covered with egg and all the bets I have been winning with the IBM PC freaks at work will have been in vain.

Questions of the month

• Is there an application which will input files from all the PC / Mac / Risc PC word processors and output in the same formats? Everybody that I speak to gets stuck on this. I would willingly pay £75 for a professionally-written program that does this, so come on you programmers.

• George Barker: "I am 71 years old, retired and enjoying using my computer as a hobby. I use a video camera to record the various light aircraft flights my son and I enjoy and although I have independent editing equipment, I am wanting to use the computer to overlay titles onto an edited copy of our flights and also to add sound and music. I would like to hear from anyone with experience of using hardware and software for video editing on the Risc PC." *(Your wish is my command – see page 31 of this very issue! Ed.)*

• Does anybody know the pinout for the old SCSI and new SCSI 2 connectors, so that I can check if I have terminators fitted on my scanner cable? (I will put this in the next column if I find out).

• Can the reader who supplied a most useful machine performance indexing program, via Paul, get in touch please? I have promised a copy to Martyn Purdie who has just moved direct from a BBC to a Risc PC (no small jump that!), and cannot find where I have placed my copy.

Tailpiece

A number of people have asked about the Paint option which enables deep sprite editing – It is "set Paint$Options X". Please note, it is most important to save your work regularly when using this mode, because Paint is not bug free when this option is set.

I have failed miserably with the Packet Radio article which I promised last month. I have been very busy, plus I have lost the Radio Society of Great Britain's address, from where I was hoping to get some real information on disc to ease the task, still there may be time by next month.

As usual, I can be contacted by letter at the HES address on the back page, by telephone after 7p.m. or by Packet Radio from anywhere in the World, as GW4NEI@GB7OAR.#16.GBR.EU.

Use of Sound in Special Needs

Neville Dalton

At the Hampshire Micro-Technology Centre, we have an active Special Needs Department which, where possible, tries to capitalise on the Acorn technology already in its schools to support its special needs programs. Below are details of two projects which have made use of the sound capabilities of an Archimedes fitted with one of the low cost Oak Recorder sound sampling systems.

Say It & See

This is a speech and language therapy program for RISC OS computers.

During the administration of the 1991/2 GEST Special Needs grant, several requests were made for the provision of a device, called "Speech Viewer", which helps in the education and therapy of children who have speech and language difficulties. A number of schools in Hampshire now have such pupils, who may have impaired hearing, neurological or physical difficulties, which cause problems in their production of clear and understandable speech.

At the time the requests were made, Speech Viewer sold at about £700 and needed a PC to run it. Given that there was already an excess of demand for grant aid towards equipment having a more general and wider application, it was not possible to provide for this specialised requirement. However, it was appreciated that there was considerable demand for such a valuable tool in its field and we began to look for an affordable alternative, ideally using the computer equipment already in school classrooms. This decision has been vindicated with the rise in price of the latest version of Speech Viewer to over £2,000 (+ computer).

A set of very basic speech activated animation programs, based on the MicroMike, have been available for the BBC computers for a number of years but, due mainly to the limited capacity of that computer system, such programs really only used

the microphone as a switching device. Something more sophisticated was needed. Hampshire Microtechnology Centre, already having some experience of developing sound and speech input devices for the Archimedes computer with our ConVerse program, drew up the specification for the desired product.

The producers of the Oak Recorder sound sampling microphone were commissioned to write the software. The Oak Recorder software provides a number of SWI calls for recording and playing back samples, and performing spectral analysis. These were sufficient to provide all the functionality required and so the programs could be written as stand-alone Basic programs with no changes to the sampler package being required.

The Say It & See software is designed to provide motivating exercises for pupils needing speech and language remediation. It is a suite of six exercise activities, as follows:

!Balloon – voice control – voicing is sustained and increased to expand and finally 'pop' the balloon.

!Cliff – voiced or unvoiced sounds are used to make a tractor push boulders over a cliff, into the sea.

!Mountain – the flight of a hot-air balloon over a mountain range is controlled by voicing level. The 'mountains' are created by the pupil or teacher.

!Flycatch – differentiation between sounds moves the frog across the lily-pads to catch the fly.

!Objects – measures and rewards pupils' accuracy in speaking target words.

!VoicePrint – split-screen in which an active phonogram is matched against an appropriate target.

The level of difficulty of each exercise may be adjusted to suit the current attainment and aims for individual pupils.

Using the Oak Recorder microphone, vocalisations may be captured for use as 'targets'. This feature allows appropriate samples to be used, providing flexibility for vocal variations resulting from age, gender, regional or ethnic origins, etc. The ability to record is built into the individual applications which require it so that the applications are self-contained.

We would not pretend that Say It & See has the sophistication of IBM's Speech Viewer, which uses its specialised hardware to provide many facilities for clinical use. However, we are content that the power of the Archimedes computer is being effectively utilised to provide speech therapy exercises, for use in the school context, at an affordable price.

Say It & See is priced at £105 +VAT including the Oak Recorder microphone and £75 +VAT without.

InTouch

InTouch is a major new concept keyboard package from Hampshire Microtechnology Centre aimed at the early stages of children's cognitive development. The idea came from Stuart Rees, who is teacher adviser for Special Needs and Information Technology and was developed in-house by Ian Cripps.

InTouch offers opportunities for activities such as picture / symbol / colour / object / number recognition, matching and sequencing, each activity having the opportunity to be enhanced by the inclusion of sound samples produced with an Oak Recorder.

It was decided that the inclusion of sound would make the program much more usable and meaningful for the children. Any appropriate sound samples can be used, and the Oak Recorder provides the easiest and most flexible means of recording sound for the Archimedes computer.

Voices and sounds in the immediate vicinity of the computer can be recorded directly onto a computer disc using the Oak Recorder microphone. Music and other sound effects can be recorded directly (copyright permitting) using an appropriate lead to the Oak Recorder's "dongle" which lives in the computer's Printer Port. Even if a cassette recorder is used to, say, record animal sounds, these samples can easily be transferred from the cassette to the computer disc.

InTouch offers opportunities for activities such as picture / symbol / colour / object / number recognition, matching and sequencing, all with accompanying sound samples, if required.

InTouch has five modes of operation as follows:

Touch & See – Touch a picture on the concept keyboard, see it on the screen and hear an appropri-

ate sound sample. The sound sample can be replayed while the picture is still on the screen.

Touch & Match – Touch a picture on the concept keyboard to match it to one on the screen. A sound sample is played as the picture appears initially and can be replayed to act as an audible reward. The picture can be made to disappear and can only be brought back when the correct picture is touched on the concept keyboard, (a short term memory exercise). The sound sample can be replayed while the screen is blank, as a reminder of the picture.

Touch & Build – Build up the set of pictures, on screen, in random or preset order, from the concept keyboard by touching each in turn, the sound sample being played as each picture appears.

Touch & Return – All the pictures are displayed on the screen, and one will then disappear. It has to be brought back by touching the corresponding picture, word, etc, on the concept keyboard. The sound sample will be played as a reward each time the correct picture is brought back.

Touch & Scan – This mode is intended as an introduction to switch-operated scanning and can act as a communicator for children who have a communication difficulty. Up to ten symbols are displayed on the screen. The user has the choice of single or double switch scanning using the concept keyboard or switches plugged into the user or analogue ports. Sound samples may be added, to play as the symbol / picture is selected.

In Touch is available to any school for £40 +VAT (excluding Oak Recorder). A

ImageFS

Dave Floyd

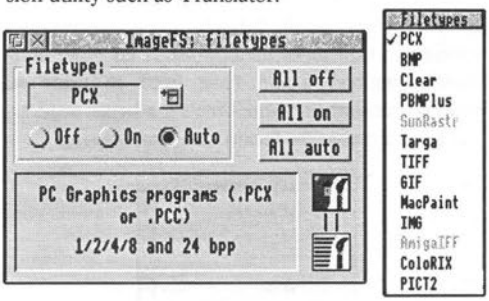
ImageFS is an application from Alternative Publishing which allows you to use 'foreign' bitmap graphic files as if they were Acorn sprites. The software requires RISC OS 3.1 or greater and costs £34.95 + VAT (special offer until end of April 1995).

Loading the software

ImageFS initially installs itself onto the iconbar, enabling you to configure it to your requirements. Clicking <menu> over its icon reveals a five option menu, consisting of Info, Type Control, Global Options, Save Options and Quit. Interestingly, clicking <select> on the icon brings up the Type Control window, while <adjust> provides a quick route to the Global Options – a convenient and well thought out shortcut. Once installed, the icon can be removed from the iconbar thus freeing memory taken up by the control software whilst leaving the module in memory and active.

Type Control window

The Type Control window allows you to select each graphics type recognised by the program and configure how ImageFS will treat it. The three options available to the user are Off, On and Auto. When configured as Off, the foreign graphics file(s) will be treated as such, i.e. as if ImageFS were not loaded at all. This is a very handy method of temporarily disabling ImageFS without de-installing the whole application, should you need to use another conversion utility such as Translator.



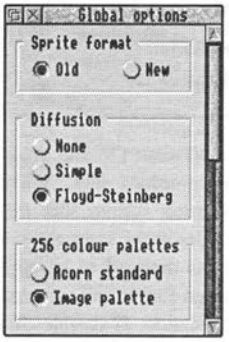
The difference between On and Auto relates to the way it handles graphics files. When ImageFS is active, the operating system sees the files as both directories and files at the same time. If the setting is On and the file is dragged to an application which accepts the foreign format, all conversion will be left to the host application. If double-clicked, however, the file opens like a directory to display a sprite icon which can be dragged into the application as if it were a sprite file. If the setting is Auto, ImageFS converts the file to sprite format before loading it into the application regardless of whether the application could handle the foreign graphics file.

For example, if you have a TIFF file which you need to import into an Impression document and the setting for TIFF files within ImageFS is On, dragging it directly into your document will load the graphic using Impression's TransTIFF conversion filter. Double-clicking on the TIFF file and dragging the resultant sprite icon into your document will instigate the ImageFS conversion and load the file into your document without invoking TransTIFF. This is because Impression thinks the file is a sprite file. On testing the two different methods, I could notice very little (if any) difference in quality between the two conversions but ImageFS was certainly quicker.

The filetypes recognised by ImageFS are PCX, BMP, Clear, PBMPlus, Targa, TIFF (including CMYK TIFF files), GIF, MacPaint, Pict2, IMG, and ColoRIX. Entries for SunRastr and AmigaIFF are greyed out on the Filetypes menu and I therefore assume that their inclusion is imminent. There are some notable omissions from this list – but more on that later.

Global Options window

Activating Global Controls from the menu reveals an annoyingly small window which necessitates scrolling to view all of the options. A far more user-friendly method would have been to make all options visible at the same time via a larger window, and allow the user the facility to adjust the size.



The first option available is that of Old or New sprite format. Selecting Old will give you a maximum of 256 colours for your sprite although, if the source image contains more, the resultant graphic will be dithered and converted as well as possible.

The diffusion technique used is selectable between None, Simple and Floyd-Steinberg. Which of these will give the best results depends upon the source image and your own preferences and requirements. You are also given the option to choose between the standard Acorn 256 colour palette or the palette contained within the source file.

Those who own a Risc PC or are loading files directly into Impression, Artworks or other software that can accept the deep sprite format, can select the New Sprite option which can load files containing more than 256 colours without compromising the quality of the image.

Further down the window there is an option to select long or short filenames. If those using RISC OS 3.5 or above select long filenames, ImageFS will either create a long name for the file from information contained within the source file or, if there is none, it will supply its own, thereby allowing you to glean size and colour information from the filename.

The next option is Tiny View which was not available in the version supplied. When it is implemented, Tiny View will apparently allow you to hold down <ctrl> while double-clicking a graphics file and will then display a very quick thumbnail image on screen. This could be a big time-saver for those who keep large piles of unlabelled discs containing obscurely titled graphics files when time next comes to sort through them for a specific picture.

The pixel aspect is selectable between Square and Rectangular, although only those using non-multisync monitors should have any need to deviate from the Square default, and even they should rarely have to worry about it.

Finally, there is an option to fix the resolution of the resulting sprite to 90 dpi or to take the information from the source image. At present, this is rather a non-option as Acorn, while including dpi information within the new deep sprite format, have not implemented the use of that dpi information within RISC OS 3.5. While a review is not the forum to discuss why Acorn so often appear to half implement features such as this, it is good to see that the option is available as a form of 'future-proofing' should Acorn choose to include it in future versions of RISC OS.

The manual

The 28-page CD-sized manual manages to include a surprising amount of information. It explains the options in detail and also contains a brief history and description of each graphics format that the software can handle. Although this may sound like ideal 'train-spotters' territory, I found this quite interesting and would have welcomed a more detailed overview. Its brevity should, however, mean that even the most hardened technophobe can read it without too much problem.

To the future

There is, as yet, no support for PhotoCD or JPEG graphics formats but a letter from Alternative Publishing talked about constant upgrading of the product, so if you have any specific requirements, get in touch with them to see what they are planning to include and what the upgrades might cost.

Much is made in the documentation of the fact that ImageFS is a true filing system. In that it works almost seamlessly alongside RISC OS and allows foreign graphics files to be used as if they were sprites, this claim is justified, but I can't help thinking that any self-respecting graphics *filing system* should also allow sprites to be exported and saved in other formats. Once again, this is planned for a future release.

I would also like to see ImageFS expanded to include the conversion of vector graphics to and from Draw or Artworks format. Vector graphics conversion is at present largely ignored (and I therefore assume more difficult to achieve), but for a piece of software to combine both bitmap and vector formats would very much enhance its usefulness. This should not be taken as a criticism because, at present, vector graphics fall outside the specification of ImageFS.

Finally, the lack of image-processing facilities will inhibit its usefulness to a large section of users. The advantage offered by ImageFS of not having to save the graphic as a sprite file before use is completely lost if you have any need to modify the image. I would have expected to see, at the very least, similar functions to those supplied with ChangeFSI, preferably more, such as the facility to crop the image. I also suspect that it makes speed comparisons rather pointless, as most other conversion software provides facilities for processing and therefore has that much more to do within the process.

Alternatives

As ChangeFSI is included with all new Archimedes machines, it has to be considered as the package by which others are judged. For those users who find that ChangeFSI fulfils all their conversion requirements, there is very little reason to buy ImageFS unless you never use the processing facilities and need to convert large quantities of files, thus making the speed gains significant.

Another option is available in the form of Image Master from David Pilling *(Archive 8.2 p71)*. Although not marketed as a conversion utility (a point made to me by David Pilling himself), Image Master is highly capable in the conversion field and has the added benefit of allowing sprites to be exported to foreign filetypes. Added to this is a veritable host of processing options, allowing you to adapt almost everything you could need. The cost of the added functionality is the steeper learning curve and the time initially spent reading the manual and experimenting. Although the times for conversion were slower than ImageFS, Image Master does provide a better and quicker alternative than a combination of ImageFS and ChangeFSI when all things are considered. Formats currently supported by Image Master are Clear, GIF, PCX, MTV, BMP, PBM, JPEG and TIFF.

Conclusions

Which conversion package is best for you will depend on what your particular needs are. For those who only require conversion from foreign formats, and either have no need of processing or already own one of the heavyweight image processing packages such as PhotoDesk, ImageFS will make an ideal addition to your software collection. It is fast, simple to use and with ongoing development by Alternative Publishing, its current inadequacies will hopefully be rectified soon.

For those who require two-way conversion or whose budget or requirements do not warrant the purchase of PhotoDesk or processing software, Image Master will provide a faster and more capable alternative to ChangeFSI. Until such time as I fall into the first

category, I would certainly not be without Image Master and after two hours of acquainting myself with the software, I was able to achieve all that I had previously done with a combination of ChangeFSI and CC's scanner software.

To sum up, close analysis of your own needs will be the most important part of making a decision on conversion software. Productivity will certainly be improved by using either package instead of the free, but slow, ChangeFSI.

ImageFS costs £34.95 +VAT or £39 through Archive. (This is a special "introductory" price.) An educational site licence is available from Alternative Publishing for £75 +VAT. A

	ChangeFSI	Image Master	ImageFS
BMP	15 *	2.5	5
Clear	16	2.5	3
GIF	15.5	4	2.5
JPEG	17.5	10	-
MTV	16	2.5	-
PBM	15.5	2.5	3
PCX	15.5	4	1.5
TIFF	19	10	4.5

* 8bpp image as ChangeFSI would not handle 24bpp BMP file

Foreign format files were created using Image Master from a 2.6Mb 32bpp sprite.

Computer used for tests: RISC PC with 8Mb DRAM and 2Mb VRAM.

Timings for ChangeFSI and Image Master are to load the foreign images into the respective packages. They would still have to be saved as sprites and/or loaded into Impression. Timings for ImageFS include loading into Impression.

None include screen draw time. Times displayed are from end of drag to start of image being drawn on screen.

For the record, the CC TIFF loader took 14.5 seconds to load the TIFF file into Impression.

Table of timing comparisons: ChangeFSI, Image Master and ImageFS

Landbuild

Chris Whitworth

Landbuild is a 3D fractal landscape generator, which means it draws pretty landscapes that look more or less like Norfolk, Derbyshire or Switzerland, depending on some values you give it. "But there are dozens of PD versions!" True, so why have ARM Club released one commercially? Dunno, sorry!

Landbuild comes packaged in a plastic wallet with one disc and a manual. This is easy to read and up-to-date – it mentions the Risc PC. However, it does contain a number of inaccuracies, which I will come to later.

In use

Upon loading the software and clicking on its icon on the iconbar, you get a statistics window. It is in here you can enter values which determine how rugged or smooth your landscape is, the water level, the rock level, the snow level, the 'seed value' (different seed values produce different landscapes – using the same seed always produces the same landscape), and how much boundary dithering takes place – how far 'random' pixels from one area can run into another – this is easier to understand when you see it than it is to explain.

In the same window are another set of icons which govern the light, height and direction. You can also turn shadows on and off. Below these are four icons (three on the 1Mb version) from which you select the resolution (note the use of the word 'resolution', not size) of your landscape.

At the very bottom are another two icons, Generate all and Recolour. Generate all is used to recreate a new landscape from scratch (i.e. you have changed the seed, or the roughness). Recolour is used to, surprisingly enough, recolour the landscape (i.e. if you have changed the snow height, etc).

Once you have clicked on Generate all, or Recolour, I would go and get a book whilst it calculates the landscape ('War and Peace' is just about right) – yes, this application is S...l...o...w...! even on a 14Mb Risc PC! On my A3000, it is almost unbearable.

Half a novel later, the map window pops up, and from here you can choose how you want the landscape displayed 'properly', either an isometric

'preview', or a 'print' from a selected viewpoint on the map.

Now, you have to wait for your landscape to be drawn. This is where the other half of the novel comes in. For some completely unfathomable reason, when 'printing' the landscape, Landbuild insists on recolouring it – or at least that's what it seems like to me. The prints generally look better than the previews, but they take longer – and you have to be careful that you don't end up sat behind a mountain, so that all you can see is a lot of rocks...

You now have the option of saving the current view as a sprite – so you can produce lots of nice screen-shots of pretty landscapes that have absolutely no practical value whatsoever!

A day in the life of a martian...

It is also possible to alter the colour scheme of the landscape – anything can be drawn in (practically) any colour – so you can have red sea and blue grass, if that sort of thing takes your fancy. Or you can produce some particularly realistic images of what Mars might look like if it had red oceans... The possibilities are endless!

All views are light sourced, and shaded accordingly. It is also possible to turn shadows on and off, but for the extra length of rendering time it takes, I do not feel this is worth it. Also, all water is depth shaded – deeper areas are darker in colour.

Moans

No package is without its bugs and, unfortunately, this package is not without its fair share. There is one bug (or some finicky people would say it is in fact two) which is truly irritating – the beaches and snow icons don't work! No matter how much I clicked on them, I could not get the package to draw beaches or snow. What makes it worse is that the version NCS have got on their Risc PCs appears to be an earlier version, but this feature works on theirs! Also, screenshots from reviews in other magazines show snow and beaches too, so evidently this feature works! Maybe the ARM Club have just got something against me...

I also have several moans about the package – it is much, much too slow. There was a program published in Acorn User many moons ago that did essentially the same thing as this program – in Basic – which ran at about the same speed! Another Acorn User program did a similar thing, but allowed you to scroll around the landscape and raise and lower the water – in real time!!! Admittedly these programs only used isometric views, but if Acorn User "type-ins" can do it, why can't the ARM Club?

Another gripe is that the package insists on printing the seed number in the top left of every print or preview. OK, so it's nice to know how you produced the picture, but surely an option to save the settings would be better?

Why???!!!

The one major question about this package is why? What is its purpose? (Does it need one? I have played with this program for ages!) If anyone can think of a good (funny?) use for it, send it in to Archive. I may consider a prize for the best idea.

Conclusions

I would really like to be able to recommend this package, but I'm afraid I can't. Considering there are a good number of PD programs that do exactly the same thing, only faster, splashing out ten quid on a commercial version doesn't quite seem right. However, if the ARM Club can iron out the bugs, and add that something to make it stand apart from the crowd, then they may have a winner.

Landbuild is available from The ARM Club for £10 (no VAT – they're not registered). A

Club News

• **Suffolk Acorn Risc Club** meets at 7pm on the second Thursday of each month in Ipswich Central Library meeting room (use the side entrance in Old Foundry Road). Forthcoming events include:

9th March – Bring and Buy sale: clear those attics...

13th April – Internet: World Wide Web, E-mail and news

11th May – Annual General Meeting

For more details, please contact Paul Skirrow (chairman) on 01473-728943, or fax 01473-270643, or email: PSkirrow@arcade.demon.co.uk or contact Andy Keeble (secretary) on 01473-216424, email Andy.Keeble@2501-302-5.centron.com. A

ClassCardz for Wordz

Douglas Stalker

This package is intended for pupils of the hard-pressed teacher whose class is taking the first steps in word processing using Wordz. The idea is that 'Please, Miss' or 'Please, Sir' should only be heard when absolutely necessary. Completion of the final activities on the cards can be used as part of the G.C.S.E. Technology coursework.

For your £20, you get an A4 double pocket folder containing a welcome note, eighteen plasticised A4 cards and an 800Kb disc with six drawfiles, two CSV files and three Wordz format files, leaving 71Kb free. An introductory card has a course record summary which lists the other seventeen cards with their objectives and tasks, plus a progress column to tick. Cards 1 to 15 introduce Entering text, Deleting and moving, Justifying, Printing your work, Spell checking, Effects, Rulers and tabs, Creating tables, Adding graphics, Searching and replacing, Styles, Inserting tables, Mailshot letters, Inserting date and page numbers and Resizing headers and footers. Cards 16 and 17 are intended to stimulate the student to use the previously learned knowledge and practised skills to make presentations by combining text and pictures to produce documents and information for specific purposes.

The cards are washable and therefore re-usable: I checked that spit removes Lumocolour washable OHP pen marks, and meths removes permanent. The Introductory Card is a quick and easy-to-maintain chart of the student's progress. The first 15 numbered cards are well organized into sections: Objectives (you will learn to...), Tasks (tidily boxed and numbered), You will use (photos of icons, dialogue boxes, etc), Screenshots of how your document should look, Saving and/or Printing your work (showing relevant icons with clear brief instructions), Checking your work (reminders of key points on the work done).

Each landscape format card is clearly titled and well laid out, following the same pattern. The learner thus quickly finds out where to look for what he/she want to know. Cards 16 and 17 provide some stimulating ideas and presentations, showing how the ideas covered previously can be used to perform four tasks: 1) designing a poster, 2) producing a newsletter, 3) creating a letter and 4) creating a report. So far so good...

The acid test?

My wife has difficulty with getting to grips with our computer. She really wants to use the system, but has not been inspired by standard WP's. I hoped that an icon-based WP such as Wordz would be more appealing, with ClassCardz convincing her that doing useful work on the computer does not have to be hard or dull. Before giving them to her, I thought I would try them out myself to be able to give knowledgeable help if required. This is when problems started...

I always treat such systems as if I had no experience at all, slavishly following instructions to the letter, as many beginners have to do. It seems that the author has not always been able to place him/herself in the shoes of a complete beginner (more difficult than you might think), with the result that the student is sometimes asked to do things without being told how until some time later. For example, in Card 3, you are asked to 'Drag the mouse over the lines of the school's address' but without being told to hold down the select button whilst doing so. This is not explained until Card 5.

Another important point is that some Icons and screenshots are quite small. For example, the mouse icon Select button is shown lightly shaded to differentiate it from the others, but at 1mm wide, this is difficult to see. Perhaps the reflective effects of the plasticising process had not been foreseen. The screenshots make the text appear to be about 6 point – decidedly difficult for me to see clearly.

I feel that the basic idea of these cards is very good. They stimulate the learner with attainable objectives and give clear evidence of progress, but the implementation could be improved. When I raised my criticisms and suggested improvements with Colton, they told me that the author had tried out and refined the package over a twelve month period in the classroom, but nevertheless they welcomed constructive comments. They also said that to the

best of their knowledge, this approach to teaching wordprocessing is unique.

ClassCardz for Wordz costs £20 +VAT from Colton Software or £22 through Archive. A

Font Designer's Toolkit

Christopher Jarman

Like many of you, I spent a happy day and walked off my feet at the Acorn World 94. I had my eye on a number of products, but the only one I actually bought was The Font Designer's Toolkit. It intrigued me and a few words with the programmer and proprietor of the firm that markets it, Aaron Timbrell clinched the deal.

Toolkit comes in one of those small, neat software boxes. It consists of one standard floppy disc with 613Kb of files on it. Nevertheless, the contents packs a powerful punch. There are four original and well thought out applications, plus Version 0.32 of FontEd from Acorn, which was, I am pleased to say, more recent than the version I have been using. There is no booklet, because Aaron has gone for a full set of well-conceived on-line manuals which are fine. Each application has its own manual.

FontTrix

The first programs is FontTrix whose purpose is stated as, "to make millions of fonts". This is quite true because, from my own collection of around 350 fonts, I found I could have made modifications giving me, theoretically, around 1,750,000 different fonts. I know the company wrestled with the name 'Designers Toolkit', and I think it gives too technical a picture of this package. It could almost be called 'Fun With Fonts' because you are not expected necessarily to *design* your own fonts with these utilities, but more to play about with existing ones and to change their shapes and characteristics.

FontTrix does this very successfully and easily. You can either follow the manual alongside your tryouts or just play about with the choices. It is possible, by choosing an option called The Family Window, to create 26 different weights of your font at once. Then you may customise your font using slider bars for six different characteristics. A nice feature of this application is that each new modified typeface that you create is automatically put into its own directory and installed in your font manager straightaway. It is thus instantly available for use. Of course, one must bear in mind that the licensing rules for many commercial fonts forbid you to re-arrange them other than in the privacy of your own home!

FontKern

Secondly, there is FontKern, the tool for spacing the letters correctly and adjusting the kerning to your own requirements. FontKern will kern a font and, very helpfully, it can take the kerning characteristics from an established font and insert it onto a new one. It is also possible to convert a RISC OS2 font to an autokerning RISC OS3 one. The use of it is elegant and entertaining, but I thought it quite lengthy and perhaps more difficult to use than the other parts of the package. As it is visually very satisfying to see pairs of letters being moved about over their shadows as you click the mouse, I think it will repay any effort in mastering it.

iSVMetric

Next is iSVMetric, a tool to read and write the data relating to your fonts. This is of more interest to programmers perhaps than to DTP enthusiasts.

FontCatLog

Finally, there is FontCatLog which will show all the fonts you have, including those created with FontTrix. This appears either as an individual table for each font, which is extremely useful, or as a visual list with each font used in a sentence of your choice. In other words, you do not have to read about a quick brown fox, but may use any 'pangram' you like. I favour from my collection, *"He wrote deftly and quickly, just amazing us with his expertise and his unabashed love of letters."* This can be viewed on the screen in WYSIWYG form, or printed out as a series of numbered and dated sheets.

iSV Products is a new company which launched itself at Acorn World 94. This Toolkit is very well designed, elegant and good value for money. I look forward to their future products especially **Fontfiend** which promises to be a much more powerful version of a font manipulator.

Font Designer's Toolkit Version 2.5 is available from: iSV Products, price £30 plus £1.50 carriage or £30 inclusive through Archive. A

(I have put a list of pangrams, collected by Christopher over the years, on the monthly program disc. Ed.)

Betsi

Richard Rymarz

For some time now I have been looking for a piece of software to complement my topic on the Tudors and Stuarts. My school is a small primary school and in order to accommodate an overburdened National Curriculum, my staff and I have organised a series of topics on a two/ four yearly cycle. We are already quite lucky in having programs such as Arcventure and Aztecs but the Tudor period has proved to be a bit of a problem.

Then along comes 'Betsi' from 4Mation, one of the principal educational software houses in the country. I was fortunate enough to have 'Betsi' for the last two weeks of the summer term. I also had access to four Archimedes computers of various types. My class of 9, 10 and 11 year olds was divided into small groups, introduced to the character and told to find out as much as they could about the late Tudor period. Bearing in mind that the children had already been studying the period for a few weeks prior to seeing the program, I was slightly surprised to see them tackle it with such enthusiasm.

What is 'Betsi'?

Betsi is an adventure written by Mike Matson who will forever be remembered for 'Granny's Garden' (we'll forgive him for that!). Mike has well known views on teaching and learning. His introductory notes explain that he strongly believes that opportunities should be provided for children to learn history (or any other area of the curriculum for that matter) rather than children being taught history. 'Betsi' is an attempt to put this philosophy into practice by providing an adventure where the children interact with late Tudor characters, who explain who and what they are. Language of the period is sometimes used and indeed there is said to be in excess of 10,000 words within the program.

Who is 'Betsi'?

Betsi is a dog who has been evicted from the Royal Kennels because she is too soft. The adventure centres around her attempts to find a home where she will be looked after and loved. During her travels she meets all sorts of interesting people, sees inside some interesting buildings such as a theatre, a monastery and a palace, hears about the problems that people faced at the time and learns how to become a 'good citizen'.

The program

What immediately grabs the children's attention is the excellence of the graphics. Not only are the scenes well drawn showing great detail, but the quality of the animation is excellent. Betsi moves very realistically as do some of the characters, boats, a cart and a variety of other objects. There are 30 scenes altogether, all of which can be explored. Sound is used sparingly but appropriately.

As it is a true adventure, the children have to solve puzzles in order to complete the program. This can be quite daunting for younger children and some guidance may be required. My groups were soon to be found either sharing their discoveries or in some cases quietly looking over shoulders to 'borrow' information. None of the groups managed to complete the adventure in one sitting but they were able to save their positions very easily.

Comments

At this point I would like to include a list of the comments made by the children about the program. Some declared the adventure too difficult and that it involved too much reading. They felt it would have been better if they had a clearer idea of what they had to do (perhaps this was the fault of the teacher!) and the younger children certainly needed the older ones to assist and encourage them to continue. On the other hand, all the children loved the graphics and were delighted to be able to 'talk' to people of the period. Most of all, they enjoyed taking the part of a dog and doing 'doggy' things like jumping onto and hiding in a cart. They all agreed that the map was essential and that some of the Tudor language

was a little difficult. However, the sharper children had listed the words they did not understand and found out about them later. Most wanted to continue through their playtime – always a good sign.

Conclusions

As a teacher, I was very happy with the program. I could see it being used as a focus for the topic and as an added resource to those already in the classroom. The program does not purport to tell the children everything there is to know about the Tudors but there is a great deal of information within it. Part of the package includes a set of ten photocopiable question sheets which could be used to assess how much the children have learned. I did not have time to use them but one suggestion is that having completed the adventure, the children would try and answer as many questions as possible from one or more sheets and then go through the adventure again and find the other answers as they went along. I am not sure how popular this would be but certainly each group could be given one particular area to research in detail. They could then report to the rest of the class.

Besides the question sheets and the map, the package includes an adult's reference booklet which contains a route guide, background information, a glossary and the resource answer sheets.

Betsi comes on three discs which can be copied onto hard disc with disc 1 used as a key disc upon start-up. A fourth disc has ten compressed screenshots and the !CFS reader to de-compress them.

And finally.....

I have had the pleasure of reviewing a number of recent releases from 4Mation and I am delighted to report that the overall quality of the product continues to impress. It is good to see Mike Matson writing programs again.

4Mation see 'Betsi' as 'edutainment' which is a newish concept to me and is, I believe, an attempt to move away from a strictly school user base. Therefore, it is marketed for home use as well as schools. Good luck to them. My view is that this continues the rich vein of offerings from a software house determined to see itself remain as a leading provider of top rate programs.

Betsi costs £34.50 +VAT for a single user version and £69 +VAT for a site licence or £38 and £75 through Archive. A

Softcrete

Andrew Rawnsley

Despite not being a particularly well known software house, The Really Good Software Company has always offered high quality products to fill niche software markets. Their screensaver, Twilight, was the first commercial program of its type and preceded most of its PD rivals by many months.

This time, The Really Good Software Company has turned its attention to software protection. Softcrete enables the user to lock an application to a specific machine or group of machines in a variety of ways, thereby reducing the threat of software piracy from a machine open to the public.

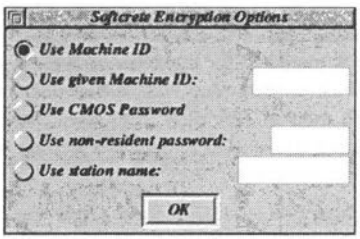
Methods of protection

I shall start with perhaps the most dubious of the protection methods – ID checking. Acorn computers that were released with RISC OS 3.0 or later (i.e. Risc PC, A5000, A4000, A4, A3010 & A3020) have unique hardware ID numbers inside them. By encrypting an application based on this ID, no other machine is able to run the program. This method of protection is not popular within Acorn, because it makes installation on a future, upgraded machine difficult. However, Softcrete is designed for locking applications after you have installed them on hard disc or network fileserver, so provided you don't protect the original discs, you're all right.

This form of protection is not suitable for groups of machines, running on a network perhaps. For this situation, Softcrete can lock a program with a password and then insert the codeword into CMOS ram. By setting this CMOS password to the same code on every machine on the network, programs can be easily run from a fileserver, with the protection totally transparent. The problem with this method is

that it uses (by default) a 4-byte area of CMOS used by Risc iX, Acorn's Unix system for ARM based machines.

The final, and rather more crude, method of protection is provided via a companion program supplied on the disc – !SCreteNRP. This allows a Non Resident Password (NRP) to be set up. The applications are then encrypted using this password, and provided that you enter the password every *n* minutes, the program will work. This protection method is useful when demonstrating a product on another machine – you can't go through the process of locking it to that machine, but the password option offers you protection.



The Main Options Menu

Other facilities

To make life easier, SoftCrete allows you to set up a database of machine IDs, and even provide them with nicknames, so that you know which computer you are locking the program for. This means that you aren't restricted to locking a program with the ID of the computer on whose hard drive it is installed. This would be useful in a school environment where one machine could be set up in the staff common room and connected to the main network, but sensitive programs could only be run from the fileserver on that common room machine.

Users of Risc iX can still use the CMOS password facility since there is an option to select at which CMOS byte the password starts. However, you should be very careful when doing this, since if you aren't 100% sure what you are doing – you can very easily cause real problems with your machine by messing around with the contents of its CMOS ram.

Target market

Softcrete's target market appears to be twofold. The first is education where IT coordinators are crying out for an application to protect their networks from piracy. The second market is that of program development. Programmers or software houses demonstrating applications at shows are particularly susceptible to piracy – you can't monitor what people are doing on three or four machines if you are on your own. Locking the software renders any copies unusable.

Conclusions

Softcrete fulfils its objective well, but I wonder whether the market is large enough to encourage the author to produce future versions. I would like to see the ability to lock a program to a disc (as occurs in most commercial games) not just to a particular computer. This would be much more convenient than the NRP approach when demonstrating software to potential customers or publishers.

Softcrete costs £24.95 inc VAT from the Really Good Software Company. A

Fact-File

(The numbers in *italic* are fax numbers)

4th Dimension	1 Percy Street, Sheffield, S3 8AU. (0114-270-0661) *(0114-278-1091)*
4Mation	14 Castle Park Road, Whiddon Valley, Barnstaple, Devon, EX32 8PA. (01271-25353) *(01271-22974)*
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iSV Products	86, Turnberry, Home Farm, Bracknell, Berks, RG11 8ZH. (01344-55769)
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The ARM Club	Freepost ND6573, London, N12 0BR. (0171-624-9918) *(0181-446-3020)*
The Really *Good* Software Company	39 Carisbrooke Road, Harpenden, Herts., AL5 5QS.
Topologika	Islington Wharf, Church Hill, Penryn, Falmouth, Cornwall, TR10 8AT. (01326-377771) *(01326-377771)*
VTI (Vertical Twist)	Unit 1, The Shopwhyke Centre, Shopwhyke Road, Chichester, PO20 6GD. (01243-531194) *(01243-531196)*
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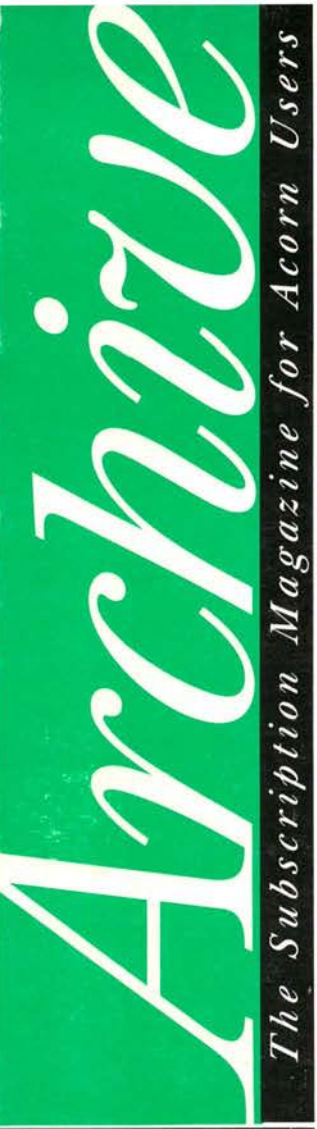

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Archive magazine is edited by **Paul Beverley** and published by **Norwich Computer Services.**

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